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Agricultural Prices

HENRY A. WALLACE

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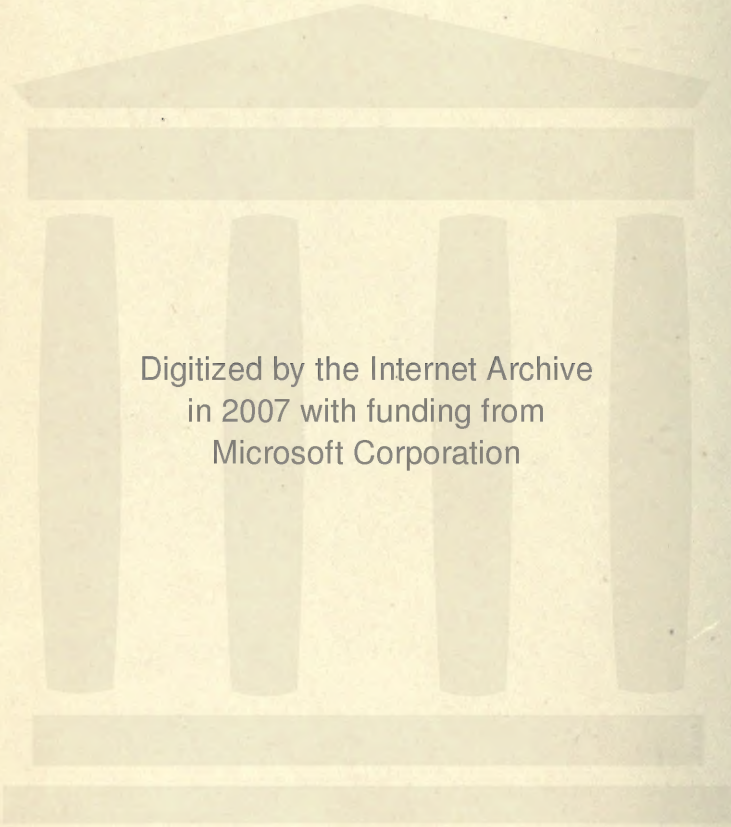
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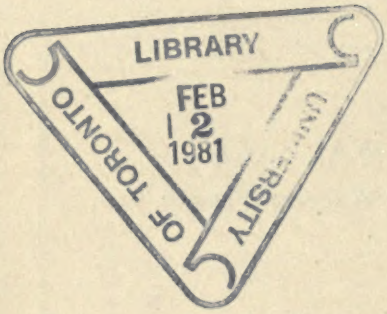
HENRY A. WALLACE

Associate Editor of Wallaces' Farmer



WALLACE PUBLISHING COMPANY
Eleventh and Walnut Sts.
Des Moines, Iowa
Publishers of Wallaces' Farmer

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PREFACE

THIS book is written for all those who may be interested in the matter of prices of agricultural products, but more especially for the farmers of the corn belt states, students of agricultural colleges, county agricultural agents, and leaders of farm organizations. Its purpose is to promote a better understanding of the factors which influence prices of farm products and stimulate an intelligent interest in statistical economics.

Aside from a rather small number of specialists at the larger terminal markets, few of the people who buy or sell farm products have any very definite ideas concerning the legitimate price-making forces. A better understanding of such forces by farmers generally should in itself gradually bring about prices which will approach more nearly cost of production, and tend to reduce the violent fluctuations above and below the compensatory average.

A careful study of the facts herein set forth should aid leaders of farm organizations to avoid costly mistakes which too often result from hasty and ill-considered action.

While not written primarily for economists, I trust many of them may find something of practical value in the matter herein. They may, perhaps, feel that at times I have not been as respectful as they would like toward many of the ideas of the classical school, but I have no apologies to offer on this score. In anticipation of possible criticism of my treatment of cost of production, I shall ask them to remember that I use "cost of production" as a ratio concept (if need be, a shifting ratio) and not as a cost-accounting concept. I may say, also, that I hold to no particular philosophy of economics unless a very firm belief in the utility of thoro mathematical price studies might be considered as constituting the basis of a philosophy.

While the book is frankly written from the farmer's point of view, there is no bias whatsoever to the mathematics used, and it is believed that so far as it may influence opinion and practice, the results will in the long run benefit both farm producer and city consumer.

Students who may take up this book for serious study will get the greatest good from it by following prices of agricultural prod-

ucts from day to day and month to month, and noting when the relationship is normal and when abnormal. In this way they will acquire habits of intelligent observation of price trends that should prove of very great value to them when they get into business for themselves.

If this book is used as a college text, it is hoped that it will be by classes which are especially concerned in applying statistical laws to agricultural prices. Such classes should have free access to calculating machines, multiplying tables, etc., and should make a serious effort to work out various ratios and also to work out supply and demand laws for various farm products by means of correlation coefficients, lines of regression, etc. The tables given in the appendix should be of some value as a source of raw material. For further material, it is suggested that the Year Books of the United States Department of Agriculture, the Monthly Crop Reporters of the Bureau of Crop Estimates, and the Reports of the Chicago Board of Trade be consulted. A good book on correlation coefficients, etc., is Yule's Theory of Statistics. The teacher of the suggested class in agricultural price statistics should simplify the mathematics to mere method, not concerning himself or his pupils with the theory back of it all. Wherever possible, the teacher should study very carefully the January and April, 1919, volumes of The Review of Economic Statistics, published by the Harvard University Press. The methods as exemplified in these volumes can very profitably be applied to the field of agricultural prices.

Acknowledgement is made to Professors J. M. Evvard and E. G. Nourse, of the Iowa State College, and to Professor F. A. Pearson, of the University of Illinois, for criticisms and helpful suggestions.

HENRY A. WALLACE.

TABLE OF CONTENTS

PART I.

Our Present Price-Registering System 7
The Three Price-Making Forces 11
Criticism of Our Price-Making System 15
Supply and Demand 20
Can "Price" Make "Supply and Demand"? 22
Cost of Production 26
Ratio Method of Determining Cost of Producing Hogs 30
Supply and Demand Versus Cost of Production 36
Cattle Prices and the Ratio Method 39
Packer Prices and the Ratio Method 41
Milk Price Determination 44
Cost of Producing Crops 49
Consumers' Ratios 52
Technique of the Ratio Method 57
Limitations of the Ratio Method 60
Retail and Wholesale Prices 62
Pork Exports the Barometer of Corn Belt Prosperity 64
Corn Belt Land Values and the Cost of Producing Corn 72
Price Stability and Soil Fertility 74
Measuring Total Crop Production 75

PART II.

Mathematical Study of Supply and Demand in the Hog Market 81
Predicting the Future of Hog Prices 98
Limitations of the Mathematical Method 103
Conclusions Based on Ratios and Mathematics of Supply and Demand 106
Appendix 113

OUR PRESENT PRICE-REGISTERING SYSTEM*

PRICES of corn belt food staples are registered more promptly and more delicately on the Chicago Board of Trade than anywhere else in the world. The farmer visitor in Chicago, who has a few minutes to spare, finds it very interesting to look down from the Chicago Board of Trade galleries on the corn pit. For several minutes, the pit may be the dullest thing imaginable, and suddenly news will "break." Perhaps it is the month of August, and it has begun to rain in Nebraska. As a result, certain operators are anxious to dispose of the corn for which they had contracted. Perhaps it is 9:30 on another August morning, and the temperature, even this early in the day, is 85 degrees, and the prospects are for hot winds sweeping Kansas and southwestern Iowa. Men who have sold corn "short" a few days before, on the strength of local rains, are now thoroly scared, and rush into the pit to buy back before the price runs up more than three or four cents.

The farmers sitting in the gallery, watching the speculators buy and sell "paper" corn, by shaking their fists and nodding their heads, feel that the Board of Trade is a gambling institution. So firm is this conviction that several of our largest farmers' organizations have gone on record as being opposed to the speculative system as a method for registering prices of farm products.

So far as the business world is concerned, the system of buying and selling future contracts employed by the Board of Trade is in the nature of risk insurance. A feed concern may have sold to farmers twenty carloads of their feed at a price based on $1.20 corn. They have not bought this corn as yet, and do not have room to store it. They therefore buy a contract for future delivery at $1.20, in order to protect themselves against corn going up in the meantime. This feed concern is in the manufacturing game; it can not afford to take a risk, and for that reason buys a future on the Board of Trade. When this feed concern accepts the actual corn, it sells the contract. It may make or lose money on the purchase and sale of the contract, but in either event the

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*It is suggested that those who are especially interested in a study of speculative markets read "Braces' Organized Speculation," or "Emery's Speculation on the Stock and Produce Exchanges of the United States."

net result is that the actual corn cost $1.20 per bushel plus the commission charge of a fraction of a cent per bushel.

The speculator takes the risk, and the spirit in which he approaches the game is often the gambling spirit, pure and simple. But, like all shrewd gamblers, he takes his risks as shrewdly as possible, and after a time becomes expert in judging the probable effects of weather, political news, transportation difficulties, etc., on corn prices. And these factors are more real than some of our agitators would have us believe.

But while speculators perform a real service to society, there is nothing angelic about them. They are concerned with a profit, not with service. The professional speculator is generally either "long" or "short" of the market; that is, he has corn bought or sold for future delivery. The man who has December corn bought for future delivery at $1.20 per bushel is hoping with all his energy that the corn crop is short and price will therefore advance, that transportation difficulties will materialize, that an unusual demand will spring up from Europe for foodstuffs, that something will happen to send up the price. He is favorable to the promulgation of any kind of news which will help him to sell his corn at a profit. While the Board of Trade has regulations against the dissemination of false news, nevertheless these men at times seem to be able to color the crop news very effectively. Situations develop where most of the professional speculators are on one side of the market, and where they are apparently able to use propaganda to force prices very rapidly either up or down, at the expense of the amateur speculators.

The products most traded in on the Board of Trade are wheat, corn and oats, and to a lesser extent the cured hog products, rib sides, lard, and mess pork. The smallest units traded in are 5,000 bushels of grain and 50,000 pounds of provisions. In the case of the grains, the contracts most commonly traded in are contracts for delivery in December, May, July and September. In the case of the pork products, the contracts most traded in are contracts for delivery in January, May, July and September. Before the war, trading in December corn customarily opened in the month of May. The price of December corn as quoted in May was necessarily based on the supposition that the ensuing crop would be a normal crop, neither greater nor less than the average. If there was cold, wet weather in May or June, the price advanced. If the weather was warm and rather dry, the price declined slightly. However, as a general proposition, before the war, the price held practically steady during the months of May and June. During

July and August, however, corn values on the Chicago market oscillated back and forth with rainfall and drouth, registering the changes in marvelously delicate fashion. Customarily, before the war, it took an average rainfall, in the seven great corn states, of about one and a quarter inches during ten days, to hold the price of December corn futures practically stationary. A rainfall of as much as one and three-quarters inches in a ten-day period during July and August would ordinarily depress the price by several cents a bushel, whereas a ten-day period with no rainfall at all would customarily advance the price by eight or nine cents a bushel or even more if the temperature was high.

Anyone who studies these things is surprised at the accuracy with which the market price before the war actually reflected crop conditions as they changed from day to day. Since the war, it has been more difficult to measure the price-making forces. Political conditions in Europe even during the months of July and August often have had as much influence as the weather in determining the price of corn.

The Board of Trade has to do with both cash grain and future trading. So far as prices are concerned, the cash market is supposed to be less sensitive than the market for futures. The business of the future market is to register changing conditions as promptly and accurately as possible. Occasionally, however, artificial situations develop. For instance, in a year of a very good corn crop, a large number of speculators may have sold December corn "short" at around $1.20 a bushel. At the time of the sale, they may have had every reason to believe that they could eventually buy the actual grain for less than this price when the month of December finally arrived. Then gradually transportation difficulties began to grow and bad weather came on, and altho there might be an enormous crop in the country, there would be very little corn in Chicago. Then certain other speculators might go to work buying large quantities of December corn futures, knowing that other men were "short" a long line of December corn at $1.20. These speculators might not actually want the corn, but nevertheless, by playing the technique of the market, might be able to create a "squeeze" and force the price of corn up to $1.50 a bushel before permitting the "shorts" to settle. And this might happen in spite of the fact that by January 2d there might be enough actual corn coming into Chicago to enable cash corn to be sold as low as $1.20.

The object of this book is neither to praise nor condemn the speculative system as a method for registering prices of farm products. We are pointing out the strong points in the present

system. Idealistic social workers, representatives of organized labor, and many farmers, would like to do away with the speculative system of registering prices. They would like to substitute therefor price-fixing legislation. These people, as a rule, are densely ignorant of the legitimate price-making forces, and it is impossible that they should be able to shape a price-registering machinery superior to that which we now have.*

One reason for the writing of this book is the belief that organized farmers and organized labor, working in conjunction with certain idealists, will make an effort to modify our present price-registering system. We are heartily in sympathy with such an effort, for the speculative system is far from perfect. But it is such a delicate system of registering prices that we believe that even the most virulent opponents should allow the system to run unchecked for a good many years yet, in order that they may study its functions more carefully. Here is a great field of research for the economists, who for some unknown reason have failed to study Board of Trade prices during the past fifty years as closely as they should.

Improvement on our present system can be made only after a thoroly scientific and dispassionate study of its strength and weakness.

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*The following defense of the functions of the Board of Trade was compiled by Mr. John R. Mauff, the secretary: "The Chicago Board of Trade has exclusive characteristics, indispensable to the welfare of the producer and consumer. It offers the producer a constant and infallible fluctuating market, determined and regulated by the inexorable law of supply and demand. It creates, thru the trading of its large membership, representing the various branches of agricultural and industrial activity, continuous quotations that are collected and distributed generally and without cost to the public. There is thus presented the opportunity for the producer to determine at any time the exact value of his products. A further advantage is that he can dispose of these products at any time by making a future delivery 'hedging' contract to suit his inclination, regardless of bad roads or transportation problems. Another benefit is the large and daily open competitive market in which to display his wares before a multitude of buyers simultaneously, obviating the otherwise impossible task of communicating with this diversity of demands by personal effort. Protected at all times by a set of rules and regulations holding its members to a strict accountabilty for their proper conduct as commission merchants; mandatory for suspension or expulsion for any violation of the ethics of trade. Having at their disposal a variety of ability only to be found in a large membership, insuring in this way proper handling and attention because a strenuous effort is always masterful and resourceful where competition is rife. Dissemination of statistics relating to agriculture; the benefits of terminal elevators equipped with modern apparatus for the proper care of sample grades. For consumers, car shortage and other transportation difficulties productive of business stagnation overcome by the opportunity to purchase for future delivery the raw material where 'short' sales of product call for protection. Consummation of contracts possible at all times thru the machinery of a market for future delivery at continuous prices, reliable to the fluctuations of a small fraction—one-eighth of one cent per bushel. In conclusion, and by no means least, the facilities offered for thus establishing value in every part of the United States, with no inequality because of geographical location, and so a death knell to the exploiters of producers and consumers because of this knowledge widely disseminated and so easy of understanding."

THREE PRICE-MAKING FORCES

THREE forces are prominent in making agricultural prices—cost of production, supply and demand, and strategic considerations. Farmers and laborers believe that cost of production should be the chief consideration. Business men preach "supply and demand" as the great price-making force, and in addition use strategic propaganda when it is to their advantage to do so.

Cost of production in the long run is on the average practically identical with both the supply-and-demand price and the actual price. It is in the very nature of things that those producers who can not on the average get cost of production will go out of business. In the case of the hog business, it takes about three years for the average man to get in and out. Ten years, which is fully three times the "in and out" cycle, is "long run" in the hog business. A ten-year average of actual hog prices should therefore be approximately equal to a ten-year average of the cost-of-production price of hogs. As a matter of fact, we find that the cost of production, as shown by the corn-hog ratio, is practically the same from one decade to the next. Decade after decade, the corn-hog ratio has remained constant at eleven to twelve bushels of Chicago corn per hundred pounds of Chicago hog ever since the Civil war. Farm management investigations indicate that for the average farmer this ratio represents approximately cost of production. As a matter of fact, this ratio is "cost of production" in the very truest sense of the term. This ratio represents the reward necessary to keep enough farmers producing hogs to satisfy the consuming demand, year in and year out. Stated thus baldly and simply, we see how the cost of producing a hundred pounds of hog weight must in the long run average the same as the "actual" price and also the "supply and demand" price. And yet hogs may sell for a year or so for the value of fifteen bushels of corn, as they did in 1866 and 1910, or they may sell for a year or so for the value of nine bushels of corn, as they did in 1908 and 1917. At any given time, the cost-of-production price is likely to be decidedly lower or higher than the actual price or the supply-and-demand price. It is only on the average that cost of production becomes identical with the actual price.

Supply-and-demand price departs from the cost-of-production price at any given time because of such things as unusual weather, accidents, etc. Dry weather in July and August may cut the corn

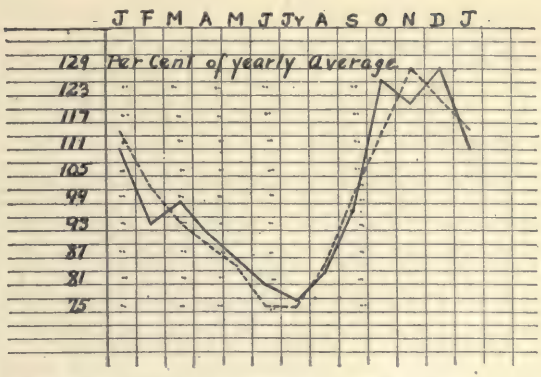
crop short, and as a result temporarily increase the number of hogs marketed. Under such conditions, the packer buyers make no attempt to pay for the hogs the increased price which the higher price of corn would warrant, but instead buy as cheaply as they can, quoting in defense, "supply and demand."

A business panic may come on, as in October of 1907, and as a result the demand for meats of all kinds may shrink. Corn prices, the cost of producing hogs, may stay up, as was the case in 1907-1908, but hog prices nevertheless are reduced. A study of the hog market for many years past reveals the fact that the immediate price-making force is "supply and demand," and that "cost of production" has no influence whatever on prices except in the long swings.

The supply-and-demand theory of prices is well understood by nearly every one. Supposedly, actual prices at any given moment represent an equilibrium of supply and demand. The next day larger supplies come in, and the demand remains unchanged; naturally the price declines to a point where supply and demand are again equal. There is a presumption in the minds of many people that supply and demand interact with almost mathematical accuracy to determine prices. In the long run, possibly this is true. The day-by-day price, however, is as much a matter of psychology as mathematics.

This brings us to a consideration of those more intangible price forces which may be grouped together under the head of strategy. In January and in August of 1919, we had excellent examples of the use of strategy as a price-making force. In both months, certain powerful interests worked in conjunction with the newspapers to modify public psychology in the interests of lower prices. Day after day, the lower price bombardment was directed against the farmers by the daily press and the politicians. Prices declined in spite of the fact that the supply was greatly curtailed and the potential demand was as great as ever. In the corn market, receipts were exceedingly light at Chicago during both price raids. Hog receipts in August of 1919, when prices dropped $5 per hundredweight, were the smallest of the year. But government officials constantly talked about the vast army supply of bacon. As a matter of fact, the quantity of pork products put on the market by the government was not enough to account for much of a drop in hog prices. But the publicity which went with the government announcements, combined with determined pressure on the speculative markets in this country and abroad, sufficed to lower prices

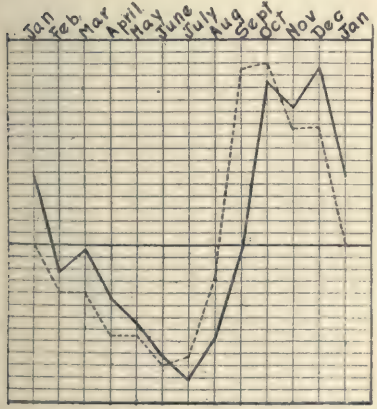
tremendously in defiance of any mathematical expression of supply and demand.



Solid line shows exports from U. S. Dotted line, ocean freights from New York to Liverpool. Ocean freights are low in summer when exports are low, and high in the fall when exports are heavy.

There is a strategy to the timing of a determined price drive. All farmers know that such a drive may be expected in the fall of the year. A drive in the fall is partly normal as a result of the increased supply at that time, but oftentimes strategic. In the fall of 1865, following the Civil war, there was a determined price drive, roughly corresponding to the price drive initiated in August of 1919. In both cases, strategic factors were apparently paramount. Certainly, no mathematical formulation of the law of supply and demand could account for the price changes which took place in 1865 and 1919.

Farmers have discovered since 1914 that such disturbances as foot-and-mouth disease, interrupted railroad service, and falling foreign exchange may influence prices without changing either potential supply or potential demand. They have suspected the "interests" of manipulating foreign exchange in the fall of the year to make lower price for farm products. They have known that ocean freights have generally advanced in the fall of the year, to the detriment of farm-product prices in the United States, and they have suspected that part of this advance in ocean freight rates was due to England trying to get a large return on her shipping and at the same time buy her food more cheaply.



Solid line, U. S. exports; dotted line, British exchange in U. S. Dotted line is inverted to show how heavy exports and weak exchange go together. Chart is based on 1903-1913 conditions.

The two charts presented herewith indicate the normal seasonal trends, during the decade

preceding the war, of exports from the United States as related to British exchange, and to ocean freights from New York to Liverpool. It will be noted that United States prices must necessarily be weakened in the fall of the year by weak British exchange and high ocean freights.

The speculative price as set from day to day is sometimes a result of technical situations altogether apart from supply and demand. Ordinarily, the speculative price as represented by "futures" and the cash price move in sympathy, but occasionally a scared "short" finds the market oversold and bids up prices unduly in an effort to cover, or a tired "long" finds the market overbought and sends prices down unduly in an effort to sell. And occasionally there is manipulation—interests working together to make the price temporarily higher or lower than a normal working of supply and demand would justify. Sometimes the cash markets, following the lead of the speculative markets, may get out of line with ultimate supply-and-demand conditions for several months at a time.

CRITICISM OF OUR PRICE-MAKING SYSTEM

PRICES of corn, hogs, etc., are determined chiefly by supply and demand, together with the occasional influence of strategic manipulation. The system as operated by the packers and Board of Trade speculators really reflected conditions before the war with remarkable accuracy. During the war, so many extraordinary conditions were at work that it was impossible to measure supply-and-demand conditions at all accurately, and it is impossible to say how efficiently the speculators did their work.

But speculators and packers, in so far as they set prices, are concerned solely in making a profit for themselves. If, by manipulating the market, they can make a bigger profit than by trying to express supply-and-demand conditions with mathematical exactitude, then they may be expected to manipulate. The violence with which hog prices swing above and below cost of production would suggest that the packers are consciously endeavoring to send prices too low for a year or two, in order later to send them too high. They go into the low-price period with a small amount of high-priced products on hand, and come out into the higher level with a large quantity of low-price products. It would seem that by laying in a stock of hog products at the low point, they hope to profit later by an advance in price.

It is typical of supply and demand, as it makes prices of standard farm products, that a small crop sells for more than a large crop. A twenty per cent decrease in the supply raises the price more than twenty per cent, possibly thirty per cent, or even fifty per cent. Old Gregory King, in the latter part of the Seventeenth century, recognized this principle when he stated:

"We take it a defect in the harvest may raise the price of corn [wheat] in the following proportions:

Defect.	Above the common rate.
1 tenth	raises the price 3 tenths
2 tenths	raises the price 8 tenths
3 tenths	raises the price 16 tenths
4 tenths	raises the price 28 tenths

Modern statistical study indicates that this statement of King's is somewhat exaggerated, but undeniably the tendency exists among standard agricultural products for small crops to bring in

a greater return than large crops. In other words, the demand for farm products is inelastic. The ultimate consumer wants just so much of staple foods, no more, no less. If farmers raise more than so much, they must accept a considerable reduction in price; if they raise less, they can command an advance out of all proportion to the shortage. The law of demand for staple farm products being inelastic, small crops bring in a greater return than large crops.*

The classical economists, the people of *laissez faire* persuasion, accept this condition as natural, as inevitable, and therefore desirable. But is it desirable? The sharp price rise which comes as a shortage becomes apparent benefits those lucky producers who have supplies on hand, and especially those keen speculators who first saw the oncoming shortage and bought in anticipation. This sharp price rise may overstimulate production. The high hog prices in 1909-1910 stimulated the production of too many hogs, and when this increased production reached market, the price was $6.50 instead of the expected $8 to $10. And the low prices of 1911-1912 in turn begat the high prices of 1913-1914.

The question comes, Would it not be to the public interest if, in price making, more emphasis could be placed on cost of production and less on the short-time working of the law of supply and demand? Prices should rise with a short crop, but not to such an extent as to make a short crop more profitable than a normal crop. If a moderate rise in prices will not sufficiently curtail demand, then the public should be educated to the fact that there has been a drouth, and that unless they curtail their demand, there will not be enough to go around. Of course, under our present *laissez faire* attitude, every speculative business man would take such a pronouncement as a "bull" statement, and the demand would immediately increase instead of decrease. There is danger that any attempt to make cost of production the guiding factor in price determination will amount to close government supervision of storage, speculation and similar market phenomena. The disadvantages of government supervision are apparent to all who watched the Food Administration at work during the war. The Food Administration performed a hard job remarkably well, but farmers found that the officials were ignorant of agriculture, and that, moreover, agricultural interests could not expect a square deal except in so far as they were organized to compel a square

*The skew curves of supply and demand, as derived by H. L. Moore, in his book on "Economic Cycles," furnish mathematical proof of this statement so far as corn and oats are concerned.

deal, or except as the emergency itself compelled a square deal to insure continued production.

If farmers are to continue under the present *laissez faire* system with supply and demand, together with strategic manipulations, as the price-making force, they must necessarily learn to play the game themselves. They will find it necessary to practice sabotage in the same scientific, businesslike way as labor and capital. They will reduce the size of their crops at strategic moments, because they know that small crops ordinarily bring in a greater return than large crops. Of course, if farmers should practice sabotage in the same heartless, efficient way as labor and capital, our society will be imperiled. The burden of the sabotage practiced by labor and capital has been borne chiefly by the farmer. When farmers also practice sabotage, labor and capital will be forced to come to an agreement with farmers on production and price matters.

Is there not a possibility that capital, laborers and farmers, by placing themselves in equally powerful bargaining positions, may come to see the futility of sabotage as a price-sustaining force? Once farmers are able to meet the other classes of society on equal terms, all three classes ought to unite on production as the source of profit, rather than on clever bargaining. This involves close-knit organizations of both farmers and laborers under the leadership of men well educated in general economics, in strategic bargaining, and in production. There must be men studying the system as a whole, men who perceive the legitimate physical difficulties which our society faces. The labor leaders must come to see that there is a point beyond which labor can not go in raising wages and reducing hours. Farm leaders must come to see that there is a point beyond which farmers can not go in reducing acreage and raising prices. Business leaders must come to see that the common people will not stand for curtailment of production to two-thirds factory capacity in order to secure abnormal profits, when by running the factories to full capacity the business will give normal profits. The best brains of all classes must unite in overcoming legitimate physical handicaps, not in figuring out ways in which a specific class may benefit at the expense of other classes. In the meantime, farmers must learn to use sagacious sabotage as effectively as labor and capital. Otherwise they will continue to be at the mercy of capital and labor.

What is the best means of overcoming the food shortage resulting from drouth? *Laissez faire* economists and business men say: Let high prices curtail demand and stimulate production.

But this remedy is "locking the stable after the horse is stolen." Is it practical to build government warehouses to store wheat in years when the acre yield is more than fifteen bushels, and from which wheat may be drawn in years when the yield is less than thirteen bushels?

No scheme of this sort can be definitely laid out in advance. But statistical science will soon reach a point where it should be possible to meet our physical handicaps in the way of drouth, floods and accident, in the spirit of doing what is best for society, instead of utilizing the crisis for individual or class profit.

If we are to continue our present complex society, we must educate our children very thoroly in social mathematics. Our problems are not only problems of the spirit, but also of exact measurement. What is the fair price for bacon? This involves the cost-of-production idea. Is bacon relatively lower or higher than hogs? Are hogs relatively lower or higher than corn? Is there a normal supply in the country? If bacon were lower in price, would the future supply be imperiled? Would an injustice be done to farmers? If bacon were higher in price, would an undue profit accrue to the packers, or would the farmers be stimulated to produce too many hogs a year from now?

Possibly it will be wise for the government to provide funds to finance a Price Publicity Committee, to be made up of economists appointed by our state universities and agricultural colleges. The duty of this commission would be to make public week by week the relevant price facts. They would point out which products are relatively high and which are relatively low, and issue index numbers of various kinds, in an endeavor to educate the public to fundamental price facts. The object of such a Price Publicity Committee will be to furnish such constant publicity that it will be difficult for any product to sell for any length of time either above or below cost of production. And in saying this we define cost-of-production price as that price which is necessary in the long run to keep enough producers in the business to satisfy the demand. It is believed that adequate publicity will favor the prevailing of the long run cost-of-production price as opposed to the short run supply-and-demand price.

Men in whom the laborers of the country have faith should have an intimate, statistical knowledge of the supply and demand forces as they make prices and as they make for the prosperity of laborers and society as a whole. Men in whom farmers have faith should have an intimate, statistical knowledge of labor and business problems in order that they may know approximately

when labor and business are charging fair prices for their services. Business men already have a fair statistical knowledge of farming and labor conditions, but they need an even more intimate knowledge, as well as a change of heart. They must learn to operate their businesses from the standpoint of greatest service and a fair profit, not from the standpoint of greatest profit. Those businesses which do not learn this may expect to be taken over either by the government, organized labor, or organized farmers, if not in one way, then in another.

SUPPLY AND DEMAND

BOTH farmers and city consumers have expressed much dissatisfaction in recent years with the methods of price determination as used by the boards of trade and packing houses. The representatives of the boards of trade and packing houses have answered these complaints with the simple formula, "supply and demand."

During the war, many people announced that prices in the United States were no longer the result of supply and demand. For a period of two and a half years, wheat prices were held at approximately $2.20 a bushel, in spite of the fact that both supply and demand conditions were varying constantly during this period, and in spite of the fact that under supply-and-demand conditions as they ordinarily work, prices might have been expected to have gone as high as $4 and as low as $1.50, at different times during this period of two and one-half years. Social workers and others of idealistic temperament who have always been pained with the rather heartless way in which the law of supply and demand has worked, were much pleased with the stabilized wheat price, and referred to it as an instance of the repeal of the law of supply and demand.

Of course, the law of supply and demand never has been repealed, and never will be repealed. Instead of trying to repeal it, we should try to secure the best type of price-fixing machinery thru which this law may work. Man has not repealed the law of gravitation, but has devised such machines as automobiles, airplanes, etc., thru which he accomplishes his purposes notwithstanding.

Our city friends who favor government attempts to repeal the law of supply and demand and to fix uniform and relatively cheap prices should direct their efforts toward the search for a new price-fixing machinery. For arbitrary interference with this law invariably brings penalties in the form of conditions which often are more severe than the condition which it was hoped to improve.

What we should strive for rather is a better understanding of the law of supply and demand, in the hope that we may be able to modify the severity of its operation and thus avoid periods of feast and famine, with their unreasonably low prices and unreasonably high prices.

Thousands of men in the corn belt, especially the leaders of

the organized farmers, should be familiar with the normal, mathematical working of the law of supply and demand. They should know not only when prices are lower than warranted by the supply, but just how much too low. Exact measurement is necessary in order to perceive when unusual factors are at work. The price indicated by a mathematical interpretation of supply and demand may be $1.25 for corn, whereas the actual price, because of a purely speculative drive, may be only $1. It is wise to measure prices to some extent by purely mathematical considerations, in order that we may perceive more clearly when extraordinary forces are at work.

After having arrived at a price based on a mathematical interpretation of supply and demand, the problem is to determine to what extent extraordinary forces are at work and to what extent it may be worth while to combat them by extraordinary measures. If corn is 15 cents a bushel below the mathematically justified price, will it be advisable for farmers generally to hold their corn and cause a shortage at the terminal markets? Will it be advisable to put out newspaper propaganda showing the public how the market price of corn is below cost of production, or put on an advertising campaign to increase the demand? These matters of larger policy are mostly outside the field of mathematics. They are largely matters of strategy. How much bargaining force do the farmers represent? To what extent will they follow directions? At what season of the year is it best to strike?

Generally speaking, a farmers' drive for higher prices would best begin about January 1st, and should reach its greatest intensity about March 1st. After March 1st, seasonal scarcity begins, and no further propaganda is needed. A consumers' drive for lower prices best begins about August 15th, and reaches its greatest intensity about October 15th. After October 15th the seasonal surplus, especially of corn and hogs, begins, and there is no further need for consumers to bring artificial propaganda to bear. It is interesting to note in this connection that the "bear" campaign engineered by the governments of the world in 1919 began in late July and continued until about October 15th, at which time the weight of the season's marketings was sufficient to hold prices down without additional use of newspaper space.

After a mathematical study of prices, the leaders of farm organizations, in so far as they attempt to influence prices, must consider the state of the export trade, rate of foreign exchange, ocean freights, world crop conditions, business conditions at home and abroad, and, in fact, all the factors which the trained specu-

lators take into account on the Board of Trade. They must take all of these things into account, and yet be able on occasion to act decisively. They must learn to play the game in the same fashion as a skillful whist player. They must not "overbid" their hand, but bid its full worth, and they must take all the tricks they can.

To have even a fair chance of success in an effort of this sort, farmers must set up a very strong statistical organization, in charge of a highly competent staff of thoroly trustworthy experts. For farmers themselves have neither the time nor the opportunity to secure the training necessary to enable them to acquire and assimilate the information needed.

CAN "PRICE" MAKE "SUPPLY AND DEMAND"?

DISSATISFIED farmers and city consumers have been told often that "supply and demand" makes the price. Economists have backed up the Board of Trade people and the packers in making this assertion.

But is it not almost equally true to say that "price" makes the "supply and demand"? Is it not possible to set a price which, as can be demonstrated mathematically, is out of line with the present supply and demand, and thru this price to create new and unexpected supply-and-demand conditions?

It is conceivable, for example, that oleomargarine might be sold for several years at a price below that warranted by supply and demand and equally below a price warranted by cost of production. It is conceivable that the abnormally low price, without reducing the supply, would increase the demand and result in the formation of the oleomargarine habit among millions of people. And it is equally conceivable that later on the price of oleomargarine might be increased more nearly to a parity with butter, and that the oleomargarine eating public might continue the oleomargarine, even tho it was underselling butter by only 10 cents a pound, instead of the 15 cents a pound differential which was existing when the habit was formed.

A low price may be used to create a demand, which will continue even after the low price no longer exists. In like manner, a low price may be used to curtail the supply of the competing article. In the illustration, an artificially low price for oleomargarine might reduce the demand for butter, thereby reducing the supply, and increase the demand for oleomargarine, and this situation of a reduced supply of butter and an increased supply of oleomargarine might continue, even tho the price of oleomargarine were later raised to its customary relationship with butter. Price may act as a cause and "supply and demand" may be a result.

In open, competitive markets, "supply and demand" generally comes first and price follows after. Before the war, for instance, the dominating factor in the corn market was the supply of corn, and during the months of July and August, when the new corn crop was being made, the price of corn varied with almost mathematical accuracy with the rainfall and temperature which were making the new corn crop. The demand for corn was a fairly

constant factor. The supply of corn was the price-making force.

Since the war, corn prices have not been the result of "supply and demand" in the sense that they were before the war. During 1919, price often came first in the corn market, and supply and demand followed afterward. For example, in January and February, 1919, corn prices broke 20 cents a bushel, in spite of the fact that receipts at central markets were decidedly below their customary level. Influential people had postulated the theory that the war was over, and that supply and demand, if given an opportunity, would operate to bring about a lower price level. They set a lower price level, but supply and demand refused to operate on the new level. The lower corn prices which prevailed during the spring of 1919, however, probably had a very material effect on the acreage planted. At any rate, there was about four per cent less corn planted in 1919 than in 1918.

According to the customary view, when the supply is smaller than usual, the price should be greater than usual, and vice versa. In the hog market this does not necessarily hold true. In November of 1907, hog prices were dropped with a terrific jerk, as a result of certain unusual conditions. The drop was so great that farmers refused to market their hogs, and receipts of hogs in November of 1907 were about one-third smaller than in the ordinary November. The price of hogs was lower than customary by about one-fourth, and the supply of hogs marketed was less by about one-third. A similar situation prevailed in August of 1919. Prices dropped about $5 per hundredweight, or faster than ever before in history. Receipts also dropped, and much fewer hogs were received than in the ordinary August.

In both 1907 and 1919, the packers figured that the business world was so upset that to be on the safe side they would best buy their hogs cheaper than they had been buying them. Farmers were slow to realize just how great the disturbances had been in the business world, and failed to understand that in a situation of this sort the packers could put thru their program for lower prices, in spite of reduced hog receipts for a month or two. It is in the very nature of things that the packers can outlast the farmers at such a game. The packers know more accurately than the farmers the supply-and-demand conditions, and they know that after a hog reaches two hundred pounds, it is only a question of weeks till the farmer will let him go, no matter what the price. It will take an extraordinarily able farmers' organization to beat the packers at this game, an organization which holds as its trump card "ultimate supply and demand."

Prices may make supply and demand, and supply and demand may make prices. First one has the lead, and then the other; they are constantly acting and reacting. Before the war, the relationship in some commodities might be expressed with almost mathematical exactness, but there were constant little departures. Since the war prices have much more often taken the initiative than they did before the war. The result, of course, is a more violently fluctuating condition of both supply and demand.

The problem which farmers and city consumers should put to the Board of Trade people and the packers is: What are you doing to place prices at a point which will result in a more uniform supply and a more uniform demand?

COST OF PRODUCTION

THE common man prefers to approach the question of price not from the standpoint of supply and demand, but from the standpoint of cost of production. The laboring man says that he has no quarrel with the farmer, that in fact he is glad to pay the farmer what it costs him to produce food. Most people take it for granted that the just price is cost of production. In July of 1917, President Wilson gave his scholarly definition of a just price: "By a just price I mean a price which will sustain the industries concerned in a high state of efficiency, provide a living for those who conduct them, enable them to pay good wages and make possible the expansion of their enterprises which will, from time to time, become necessary, as the stupendous undertaking of this great war develops."

The idea of a just price, covering cost of production and reasonable profit, is considerably different from market price or supply-and-demand price. The market price typically alternates considerably above and considerably below the production cost of the bulk of the people engaged in the enterprise. For instance, when prices go up and profits become larger, new people are attracted into the business and production is increased until finally there is more supply than there is demand, and then prices have to go down and profits become losses, and the people who can not produce except at the high prices must go out of business. Both the farming world and the business world are composed of a great many different men, each of whom is chasing a profit in his own way. Many of these men are very short-sighted and are lured into an apparently profitable business just at the wrong time, and in like manner become discouraged with an apparently unprofitable business at just the wrong time. Under the competitive regime, it is apparent to any thoughtful business man that both in business and in farming the market price or supply-and-demand price is almost never the same as cost of production, but fluctuates in rather rhythmical manner, now above and then below cost of production, tending to equal almost exactly, over any long period of years, true production cost.

Under the market price or supply-and-demand price system as it has prevailed, the constant tendency is for the wealthier people, both among farmers and among business men, to increase their wealth at the expense of the poorer people. Poor people who

embark in general business or in farming, no matter how intelligent, are likely to go into and come out of any particular enterprise at just the wrong time. The average man who is moderately well fixed and stays by a particular enterprise year in and year out, manages to secure for himself just a little better than ordinary wages. The man who is wealthy and expands his operations just as prices are starting up, and reduces operations just as prices are starting down, secures large profits.

The fluctuating price system, which means great profits to a wealthy few, serious losses and wrecked lives for a few, and a bare livelihood for many, is the natural result of the *laissez faire* policy of the old classical economists. Their idea was to let things alone, on the theory that, let alone, prices would sooner or later adjust themselves to the proper point. In practice, prices almost never reach a proper point, but are constantly moving either above or below cost of production. One hundred years of *laissez faire* policy have demonstrated beyond a doubt that under such a system the wealthy few inevitably become richer, whereas the bulk of the people get just enough to keep them going.

The *laissez faire*, supply and demand, speculative, or market price system, is condemned by nearly every one except the business men who run it and believe they understand its beneficent workings, and the economists of the classical type who, in their careful reasoning, are unable to think of any other way of determining satisfactory prices over any period of time. The common people and the lofty idealists were greatly elated during 1917 and 1918 at the apparently successful working of fixed prices established more or less in defiance of the speculative or *laissez faire* price system.

Those who have given the most thought to price fixing advocate as a guide "cost of production plus a reasonable profit." But what is cost of production? Even in industries so well controlled by man as coal mining, where the weather does not enter in, there are some mines that can produce a ton of coal for two or three dollars, while other mines can not produce a ton of coal for less than six or seven dollars. The North Dakota wheat farmer, in a year of rust, may produce wheat at a cost of four or five dollars a bushel, whereas the Kansas farmer the same year may produce wheat at a cost of only a dollar or a dollar and a half per bushel. Shall both the Dakota farmer and the Kansas farmer be paid cost of production plus a reasonable profit for their wheat? From this standpoint we see that there is no such thing as a standard cost of production. A single producer may be able to determine

his personal cost of production of a given quantity under a given set of conditions. But in the general sense, as it is commonly thought of, cost of production is a will-o'-the-wisp, a creature that seems to exist but really does not.

Nevertheless, there is a rough-and-ready method of determining cost of production or just price as distinguished from *laissez faire* or supply-and-demand price. We refer to the ratio method of price determination. Over a long series of years, cost of production plus a reasonable profit is roughly expressed by the relationship which exists between a raw product and the finished product. In rough form it may be most easily grasped in the case of corn and hogs. Over any long period of years, hogs sell on the Chicago market at a price per hundredweight equal to the Chicago price of 11.5 bushels of corn. When hogs have sold for fourteen bushels of corn, they have sold for more than cost of production plus a reasonable profit, while, on the other hand, when they have sold for nine bushels of corn, they have sold for less than cost of production plus a reasonable profit. All this is not saying that certain producers have not been able to make a profit when hogs have sold for nine bushels of corn. Neither is it saying that certain producers may not have been selling at a loss when hogs sold for as much as fourteen bushels of corn. It is simply saying that it has required the pulling power of a price for hogs which is equal to the price of 11.5 bushels of corn to keep enough men in the hog business year in and year out to supply the demand of this country for hog products during the past sixty years. This is what we mean by the ratio method of price determination. It is the only practical method of determining cost of production in such a business as farming, where there are millions of producers working under a variety of conditions.

We have the greatest respect for the old *laissez faire* or speculative method of price determination. It worked very nicely under competitive conditions, such as existed before the war. No one knows as to whether or not times now are right for adopting a different machinery thru which the law of supply and demand may work. We offer the ratio method as a method which is probably better adapted to a thoroly democratized co-operative society than the old-fashioned *laissez faire* method, which was adapted primarily to a competitive society.

The spirit of the ratio method is highly technical. The examples given in this book must necessarily be simple. But in actual practice, the ratio method would necessarily become quite technical, requiring for its administration highly specialized statis-

ticians. At the present time very few men are available for work of this sort. The ordinary man who tries to fix prices by the ratio method is biased by either personal or class interests. A notable example of this was the Chicago Milk Commission, composed of leading citizens of the state of Illinois, which sat from December, 1917, to February, 1918, and finally offered as a method of milk price determination the ratio method. The majority of the members of this Milk Commission were city people, and on that account, consciously or unconsciously, they twisted the ratio method so as to bring about a low price for milk. If the majority of the commission had been farmers, they could have twisted the ratio method to bring about a much higher price for milk. But there are now, and in the future will be more, men properly trained in the weighting of agricultural index numbers, who can look into matters of this sort with a scientific nicety and determine prices by the ratio method with the greatest accuracy, by which we mean the minimum of bias toward either producer or consumer.

It is our intention in this book to indicate ways of securing ratio prices for various agricultural products. The methods outlined in succeeding chapters are definite and exact; we grant, however, that they may be made more comprehensive and be further refined so as to cover their respective fields in more effective fashion.

RATIO METHOD OF DETERMINING COST OF PRODUCING HOGS

THE ratio method of price determination was first publicly recognized in the United States by the Food Administration, in November of 1917. A commission of seven swine men had been appointed by the Food Administration to determine the cost of producing hogs, and in submitting their report the commission adopted practically without change the ratio method of price determination as advocated in Wallaces' Farmer during the summer and fall of 1917. The commission, composed of expert swine men from all over the United States, after a careful technical survey of the situation and consideration of the figures submitted by the author, came to the conclusion that the ratio method actually expressed cost of production more simply and accurately than any other method.

In its simplest form, the hog producer of fifty years ago grasped the ratio idea. Without any statistical investigation, the swine growers of those days came to the conclusion that they could make money when they sold their hogs for a value per hundredweight of more than the value of ten bushels of corn. For a generation or two, hog men looked on a ratio of ten bushels of corn to one hundred pounds of hog flesh as about right, altho they felt that such a ratio might not cover risk.

From an exact statistical standpoint, take the ten-year period extending from 1907 to 1916, inclusive. During that time No. 2 Chicago corn averaged 66.3 cents a bushel, whereas hogs averaged $7.53 per hundredweight. The ratio for that particular ten-year period was 11.4 bushels of Chicago No. 2 corn to equal in value one hundred pounds of Chicago hog flesh. How uniform is this ratio between corn and hogs from decade to decade may be judged from the following table, which gives the ratios as they have prevailed year by year for the past sixty years, and the average by decades. The second column shows the number of bushels of corn required each year to equal in value one hundred pounds of live hog:

1858-1867.		1868-1877.	
1858	8.7	1868	9.5
1859	7.1	1869	14.0
1860	12.4	1870	11.9
1861	14.0	1871	10.2
1862	10.0	1872	11.1
1863	7.0	1873	12.3

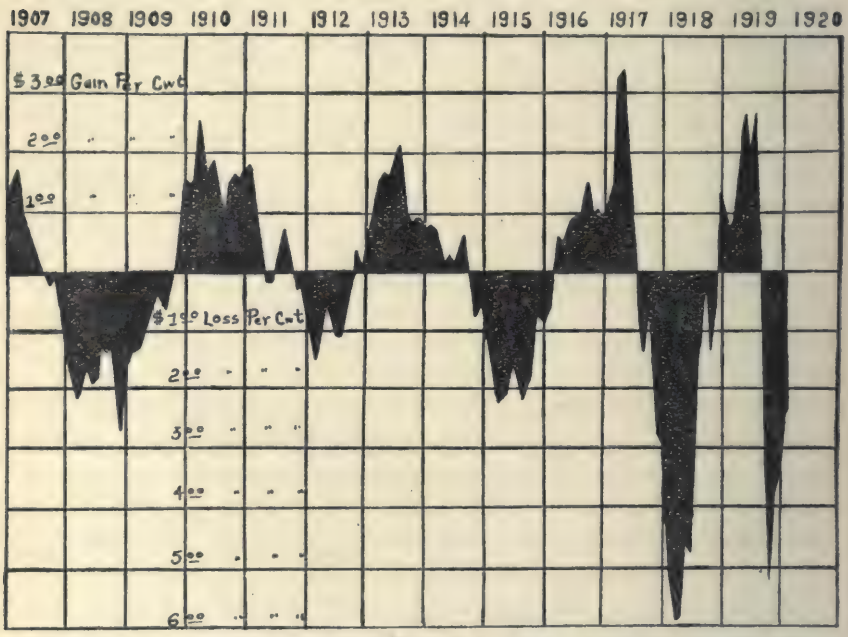
1864	7.3	1874	8.9
1865	16.3	1875	11.8
1866	16.2	1876	15.3
1867	7.2	1877	11.5
Ten-year average	10.6	Ten-year average	11.7

1878-1887.		1888-1897.	
1878	9.7	1888	12.3
1879	10.3	1889	12.5
1880	12.3	1890	9.9
1881	12.1	1891	7.4
1882	10.9	1892	11.8
1883	11.3	1893	16.5
1884	10.5	1894	11.6
1885	9.7	1895	10.8
1886	11.1	1896	10.7
1887	12.4	1897	14.2
Ten-year average	11.0	Ten-year average	11.8

1898-1907.		1908-1917.	
1898	14.6	1908	8.4
1899	12.0	1909	11.3
1900	13.2	1910	15.2
1901	11.8	1911	11.2
1902	11.6	1912	10.9
1903	13.0	1913	13.2
1904	10.2	1914	11.7
1905	10.4	1915	9.6
1906	13.4	1916	11.5
1907	11.4	1917	9.7
Ten-year average	12.2	Ten-year average	11.3

To refine the method to meet market conditions, we need to know the ratio between corn and hogs at different seasons of the year. There are seasonal periods of over-supply and scarcity of both corn and hogs. In November, for instance, the 1907-1916 price of corn was 67.2 cents and the price of hogs $7.23, or a ratio of 10.6 bushels to one hundred pounds of hog flesh, while in March of the ten-year period the average price of corn was 61.7 cents and the price of hogs $7.66, or a ratio of 12.4 bushels of corn for one hundred pounds of hog flesh. In like manner, there is a fairly normal ratio for each month of the year and for each week of the year. All this is on the assumption that hogs are simply condensed corn. It does not take into account the fact that hogs have been made out of corn at varying values during a period of about a year preceding time of marketing. Obviously, then, we must have a composite corn value. In matters of this sort, statisticians know that it is absolutely impossible to weight matters so as to represent actual conditions, but at the same time they know that absolute accuracy is not at all essential, that in fact a difference in weighting will ordinarily make very little difference in results.

While the author personally recommended to the commission appointed by the Food Administration to investigate cost of producing hogs, a slightly different weighting, yet nevertheless we will use here the weighting recommended by that committee. The committee assumed that the corn going into the making of a hog was distributed over twelve months; that during the first month 2 per cent of this corn went into the hog or its dam; the second month, 2 per cent; third month, 2 per cent; four month, 3 per cent; fifth month, 4 per cent; six month, 6 per cent; seventh month, 5 per cent; eighth month, 9 per cent; ninth month, 15 per cent; tenth month, 20 per cent; eleventh month, 17 per cent, and twelfth month,



Illustrating the departure of actual Chicago hog prices from the ten-year standard ratio, corrected seasonally.

15 per cent. Securing composite corn values by this kind of weighting, we find that as an average of the ten-year period, 1907-1916, the January ratio was 11 bushels; February, 11.6 bushels; March, 12.4 bushels; April, 12.7 bushels; May, 12.3 bushels; June, 12.1 bushels; July, 12 bushels; August, 11.8 bushels; September, 11.8 bushels; October, 11.3 bushels; November, 10.6 bushels, and December, 10.4 bushels.

For sake of example, determine cost of producing hogs for the Chicago market for the month of April, 1918. Corn values month by month, beginning April, 1917, were as follows: 144.9 cents,

163.9 cents, 170.7 cents, 200 cents, 197.2 cents, 208.6 cents, 199.2 cents, 201 cents, 173.2 cents, 180.6 cents, 174.5 cents, and 172.3 cents. Weighting these on the basis indicated, we get a composite value of corn of 182.5 cents.

The historical ratio for the month of April is 12.7 bushels of such composite corn. Multiply 182.5 cents by 12.7, and we secure $23.18 as the cost of producing hogs for the Chicago market in April of 1918, under the ten-year ratio method. The actual price was $17.45, or a loss of $5.73 per hundredweight. The chart which is published herewith illustrates graphically results secured in the same manner for every month during the ten-year period beginning 1907.

Ordinarily, Chicago No. 2 corn measures very accurately the changes in corn value on the farm, the corn out of which hogs are actually made. During part of the winter of 1917--1918, Chicago No. 2 corn ceased to be quite such an accurate measure as usual, for the reason that the quality of the crop was so poor that only a small amount of corn graded No. 2, and for the further reason that there were severe transportation difficulties.

Some people have urged not using Chicago No. 2 corn values, but corn values on farms as reported to the United States Department of Agriculture, monthly, by crop reporters. This price is no doubt compiled with considerable accuracy, but is open to objection for the reason that it does not represent a uniform grade. In soft corn years, a bushel of corn as valued by crop reporters on farms is poor stuff. In such years, there is always a wider spread between the farm value of corn and the Chicago No. 2 value than in years when the quality is good. It might do fairly well to take farm values of corn and farm values of hogs if definite grades could be established. If they can not be, it is probably best to take Chicago values of No. 2 corn and heavy hogs as a basis, making allowance occasionally when exceptional conditions arise in the way of artificial prices temporarily created by transportation difficulties, and remembering always that the true point at issue is to apply a ratio between certain grades of actual feed on the one hand and a certain grade of hogs on the other. This is a technical matter which really can not be decided by lawyers or business men, however competent such men may be to run a food administration or a department of agriculture, or by farmers, however competent such men may be to feed hogs. It is a matter which must be handled by men who understand markets and who have had sufficient economic training so that they understand a little something of the making of index numbers, and who have

had sufficient touch with agricultural conditions so that they understand a little something of the technique of feeding hogs.

Soon after the report of the commission on cost of producing hogs, the Food Administration announced among other things that it would do its best to pay hog producers, for a hundred pounds of hog flesh, the equivalent of thirteen bushels of the corn which went into these hogs, the ratio system to apply to hogs farrowed in the spring of 1918. It was expected that there would be an urgent need for hog products during 1919, and it has generally been regarded that this announcement of the Food Administration was wise. The thirteen-bushel ratio was 13 per cent over the historic ratio, and encouraged the transforming of a larger amount of corn into hogs than usual.

When it came to putting the thirteen-bushel ratio into effect, in the fall and winter of 1918-1919, the Food Administration did all in its power to squirm out of living up to its guarantee. First, the effort was made, in the month of September, 1918, to make it appear that the thirteen-bushel ratio was based on a ratio between farm corn prices and Chicago hog prices, in spite of the fact that the pamphlets originally issued by the Food Administration to farmers of the corn belt in November of 1917 explained the ratio on a basis of Chicago corn prices and Chicago hog prices. By using farm corn prices, the Food Administration secured a figure of about $2.50 per hundredweight lower than if the thirteen-bushel ratio had been applied literally as described in the original pamphlets. The Food Administration, however, claimed that it could not live up to its original guarantee, because the export prices of pork would not justify it. In this respect, it is interesting to note that in August of 1918, just before the Food Administration took up this matter of carrying out its thirteen-bushel guarantee, Great Britain reduced its maximum price on American bacon by about $12 per hundredweight. It is also interesting to note that the British Food Administration was making money on its handling of pork products, altho it was losing money on its wheat. Those American producers who were most familiar with the situation believed that there was a concerted effort by the American and British food administrations to buy the large American hog crop, which had been secured by the thirteen-bushel guarantee, as cheaply as possible, avoiding its guarantee with such chicanery and deceit as an experienced business man knows how to use in case of emergency.

The committee of some fifteen men, supposedly representing the American hog producers, which met with the United States

Food Administration in this matter, were not well educated along statistical or economic lines, and they went down to defeat in September, 1918, scarcely realizing just what the Food Administration had done to them. Only two members of this committee had served on the original commission, and it was impossible for them to give the other members a full comprehension of what the ratio meant. When the facts became known, widespread indignation among the farmers of the corn belt compelled the Food Administration to abandon the hypocritical pretense of living up to the thirteen-bushel ratio and come out flatly for a $17.50 minimum, which was really a ratio of 10.8 bushels. The Food Administration was able to thus repudiate in part its definite obligation to hog producers, because there were no thoroly organized farmers with leaders trained to think in terms of statistics and economics.

The author does not care to create a prejudice against the Food Administration. It probably did its work as efficiently as any branch of the government during the war. The sole purpose is to point out to agricultural students the extreme disadvantage under which farmers labor in bargaining with other classes of society. It is hoped that as farmers learn to follow the example of keen business men and employ trained experts to look after their interests, and as farm leaders become better trained in statistics, economics and business principles, this disadvantage will disappear.

SUPPLY AND DEMAND VERSUS COST OF PRODUCTION

WHAT makes hour-by-hour and day-by-day prices under *laissez faire* conditions is not cost of production, but that brute force which we call "supply and demand." In its blind groping, this force necessarily approximates cost of production as an average of any long period of time. But it never specifically recognizes cost of production as a factor which should be considered. It approximates cost of production because it has to, not because it wants to.

An illustration of the strategy of the hog market is a case in point. Imagine a Monday hog market in early March, at which season of the year prices are generally rising. Suppose that instead of the accustomed 40,000 Monday hog run, 60,000 have been received. Suppose that, owing to car shortage or some other reason, eastern shippers are out of the market. There is a larger supply than usual and a smaller demand, and prices decline 15 or 20 cents a hundredweight, perhaps very much more. "Supply and demand," say the packers and practical economists, with unction. But at that very time every one may know that the potential supply in the country is very small, and the potential demand is very great. At that very time this wider situation may be taken fully into account by the packers in the prices which they are charging for their products to the retailers. The hog market may have broken 15 to 20 cents, but the lard, ham and bacon markets may have held steady or even advanced.

The packers, in the prices which they pay for live hogs and the prices which they charge for hog products, are governed chiefly by strategic considerations. Day by day they change their prices to meet the surface indications of changing supply and demand conditions. They may sometimes exercise such poor strategy that they will be compelled to manufacture hog products at a loss for a time. The prime consideration is to buy as cheaply as possible and to sell as high as possible and yet meet the competition, which is rather more active than many farmers have supposed.

Now it is obvious that a ratio system of hog prices is not compatible with the system employed by the packers, or by any typical business man, for that matter. Big business enjoys a speculative profit which comes with fluctuating prices. But a daily fluctuating price is not consistent with the idea of a just price or a cost-of-

production price. If the packing business were a monopoly under government control, stabilized prices under the ratio system might be paid with some degree of satisfaction, provided we assume that the governmental authorities have a real insight into market conditions and a thoro understanding of the ratio system of price judgment as related to supply and demand. Under the present regime, however, it is difficult to see much prospect of hog prices ever being stabilized, for the reason that under a *laissez faire* system business profits result from fluctuating prices, those businesses profiting most which are best organized and most long-lived, and are able to take strategic positions over long periods of time.

What would happen if cost of production were to be paid in the hog market day by day, year in and year out? By cost of production is meant the 11.5-bushel ratio, modified seasonally. Packers can think of many objections. For instance, they can conceive of periods of a year or two at a time when the 11.5-bushel ratio would necessitate paying the farmers more for their hogs than they could get for the meat. Equally, they can see how it might be that for periods of a year or two at a time, they would be able to get out of the consumers a price equivalent to considerably more than the 11.5-bushel ratio. Admittedly, these objections are sound under present conditions; supply-and-demand price is the only price adapted to the *laisscz faire* situation.

If farmers as a class are to secure cost of production for their hogs month after month and year after year, they must organize into powerful associations to do business co-operatively. They must control the supply of hogs with an iron hand and an intelligent head. They must be willing to play fair with the consumers and not charge more for their hogs than the ratio of the past sixty years. In fact, it is conceivable that they might be able to sell their hogs at slightly less than the 11.5-bushel ratio of the past sixty years. If the organization was really powerful enough to enforce the cost-of-production ratio over any period of time, the market risk, which has been a very serious factor in the past, would disappear. This risk has been such a factor that it is quite possible that farmers would be willing to produce enough hogs to satisfy the market at an eleven-bushel ratio if the risk no longer existed. The author estimates that as an average of the past sixty years the consuming public has been paying at least 50 cents per hundredweight more than necessary for its hog products. This extra 50 cents has been in the nature of risk insurance.

It is conceivable that both farmer producers and city consumers might organize to carry this risk between them, the city consumer

co-operative organizations agreeing in advance to take a certain number of pounds of hog products, and the farmer producing organizations agreeing to furnish such a quantity of hog products on the basis of a corn-hog ratio representing cost of production.

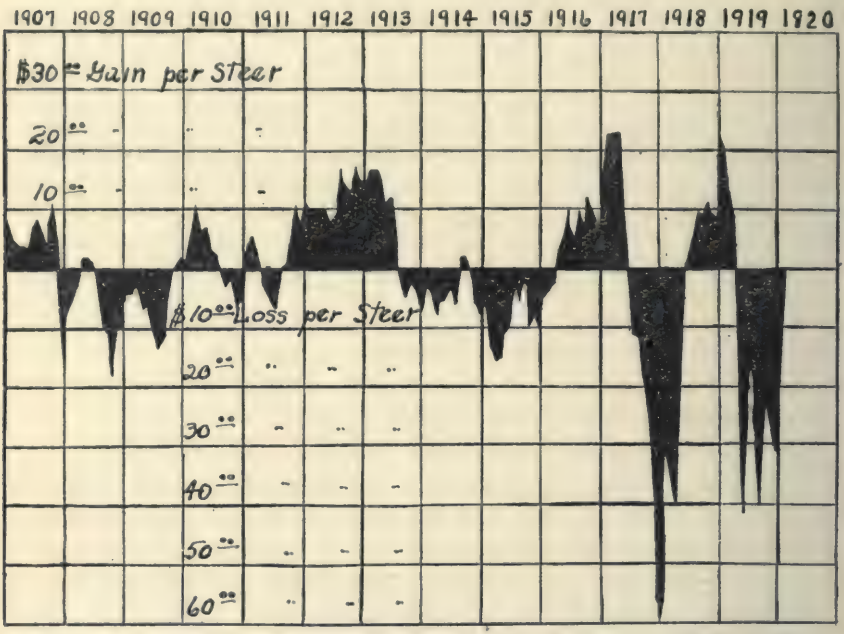
CATTLE PRICES AND THE RATIO METHOD

A RATIO between corn and cattle does not represent cost of production nearly as accurately as a ratio between corn and hogs. However, such a ratio, when worked out and applied over a long period of years, reveals the interesting historical fact that the swings in cattle prices above and below the ratio line are periods of about seven years each way.

A more accurate method is to take into account the fact that fat cattle as produced in the corn belt and marketed at Chicago are commonly made out of feeders which were bought a few months previously, taken to the farm, and finished chiefly on corn, together with a little in the way of pasture, hay, silage and concentrated feeds, such as cottonseed meal and oil meal.

As an average of the ten-year period, 1906-1915, ordinary 1,000-pound feeders on Chicago, in October, cost $51.20. As an average of the ten-year period, these same 1,000-pound feeders, as ordinary, well-finished fat steers weighing 1,300 pounds each, sold the following April for $98.35. During this ten-year period it seemed to take $47.15 to cover the cost of feed, risk, labor, etc., of bringing a 1,000-pound feeder to 1,300-pound fat condition. Ordinarily, it is substantially accurate to measure these things in terms of corn only. During the ten-year period under consideration, the weighted price of corn was 61.5 cents. Dividing $47.15 by 61.5 cents equals 76.7 bushels. As an average of the ten-year period it has required the value of 76.7 bushels of weighted corn to make a 1,000-pound feeder, bought in October, moderately fat for the Chicago market the following April. The corn is weighted on the theory that the steers consume 8 per cent of it the month after they are bought, 15 per cent the second month, 20 per cent the third month, 20 per cent the fourth, 20 per cent the fifth, and 17 per cent the last month. Applying the ten-year ratio to the specific month of April, 1918, we find that a 1,000-pound feeder in October, 1917, cost $84, and the value of 76.7 bushels of composite corn was $139.40, making a total cost of the finished 1,300-pound steer, $223.40. The actual selling price in the month of April, 1918, was $199.55, or a loss of about $23.85 per steer. Applying the same method month by month, we get the chart as herewith published. It expresses profits and losses with a fair degree of accuracy to the ordinary cattleman who buys feeders

at the central market and feeds them for five to seven months, largely on corn. During the winter of 1917-1918, the chart was not quite so accurate as usual, for the reason that the other ex-



Illustrating the departure of prices of 1,300-pound native steers at Chicago from the ten-year ratio.

penses did not mount at this time as rapidly as corn. While heavy losses were incurred by cattle feeders, they were not so great as indicated in the chart.

The profits and losses of the big cattlemen of the far-western and southwestern states are not to be measured by such a chart. Their chief expenses are labor and the cost of pasture. Weather conditions affect them directly, whereas weather conditions in the corn belt affect cattle profits indirectly, thru the price of corn. During 1917 and 1918, the western cattle men, with the exception possibly of those in certain sections of the southwest, which suffered from unprecedented drouth in 1917, made unusually good profits. As a class, their profits were probably not as large as the profits of the grain-growing farmers of the middle-west, but were far larger than the profits of the cattle-feeders of the middle-west.

PACKER PRICES AND THE RATIO METHOD

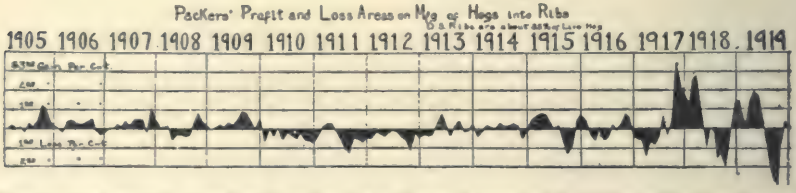
THE Chicago packers buy hogs as cheaply as they can and sell the pork as high as they can. Nevertheless, for months at a time they may sell pork products at a loss. Over any long period of time there is a fairly constant ratio between the value of one hundred pounds of live hog flesh and one hundred pounds of lard, ribs or other standard hog products. To simplify matters, and for purposes of illustration, we will consider that standard hog product, dry salt ribs, which makes up about 35 per cent of the live hog.

As an average of the ten years from 1886 to 1895, dry salt ribs (low-grade bacon) sold for the value of 136 pounds of live hog. During the ten-year period from 1896 to 1905, ribs sold for the value of 137 pounds of live hog. During the ten-year period from 1906 to 1915, they sold for the value of 135 pounds of live hog. But while this ratio is quite constant over any long period of time, it varies considerably according to the season of the year. As an average of the ten-year period of 1907-1916, the ratio was 136 pounds in January, 132 pounds in February, 127 pounds in March, 126 pounds in April, 133 pounds in May, 137 pounds in June, 137 pounds in July, 137 pounds in August, 135 pounds in September, 136 pounds in October, 140 pounds in November, and 139 pounds in December. In April of 1918, hogs averaged about $17.45 per hundredweight. Using the standard ratio for the month of April, of 126 pounds of live hog for one hundred pounds of ribs, we would get as the hog price of ribs $21.97. The actual price was about $23.21, or the packers got for the dry salt ribs in the month of April, 1918, about $1.24 more than the customary ratio. The chart tells the story, extending from 1905 to 1919. The black area above the line might be called packers' profits and the black area below the line packers' losses on the manufacture of ribs. As a matter of fact, the packers' profits in the latter part of 1917 and early in 1918 were probably larger than indicated. This method assumes that the packers' manufacturing charges rise and fall in the same ratio as hog prices rise and fall. In the rough way, over any long period of time, this is approximately true, but it was probably not true in late 1917. Hog prices at that time were over 200 per cent of the ten-

year period, whereas packers' manufacturing costs were probably not in excess of 170 per cent of the ten-year period.

It is conceivable that as the packing business becomes even more centralized and further improvements in the use of by-products are discovered, it may be possible for packers to sell short-ribs, as an average of a ten-year period, for a price no more than the cost to them of 133 pounds of hog flesh. Under conditions as they prevail at present, however, the 135-pound ratio is approximately correct.

The ratio method of determining profits and losses in the manufacture of various packers' products is not put forward as an aid in any method of packing house accounting. It is, however, put forward as a method by which the consumer and the farmer can



Illustrating when short-rib sides have been above and below their ten-year average ratio to live hog prices.

discover in a rough way when the packers are absorbing more than their customary share.

A similar chart worked out for lard gives much the same results, altho at times the profit and loss of the two products do not always coincide exactly. For instance, in 1914, lard sold for far less than its normal ratio during the entire year, whereas ribs sold for slightly more than their normal ratio. In 1919, lard sold far above its normal ratio and ribs were below. Similar ratios might be worked out for all the various hog meats, and also for cattle and the various cuts of beef. What examination we have made of some of these ratios indicates that the packers, in their buying of live stock and selling of products, regard each product as a law unto itself. If there is a large amount of stored lard on the market, on account of the shutting off of the German demand, lard prices may be reduced, even tho hog prices are such as to warrant lard selling at a dollar or two more per hundredweight. On the other hand, if the Allies at the same time are in the market for ribs, the prices will be advanced, even tho ribs may be made from hogs at a dollar or two less per hundredweight. The problem of the packers is to buy as cheaply as possible and sell as high as possible, in the knowledge that too wide a spread will invite competition. In

the case of hog products, a loss may be withstood on a rapidly rising market, because the manufacturing loss will be compensated for by the speculative profit. This was illustrated during a considerable part of the year 1917, when most hog products sold at considerably less than their normal ratio, but when the packers actually made splendid profits, owing to the continual advance of prices and speculative gain on products on hand.

In normal times we regard charts based on principles as stated in this chapter as approximately accurate in measuring packers' profits and losses in the manufacture of given products.

It is conceivable that the normal lard ratios may go lower in the near future. Corn oil, cocoanut oil, cottonseed oil and other tropical vegetable fats are being used as lard substitutes, and as a result lard may sell decidedly below its normal pre-war ratio to hogs. However, in this case the bacon hog will gain in popularity and the supply of lard will be curtailed to a point which will justify a ratio almost as great as existed before the war.

MILK PRICE DETERMINATION

JUST what price farmers should get for their milk has been a peculiarly vexing question. Before the war, farmers selling milk to city dealers were in an unusually weak bargaining position. When their position became intolerable, they organized into powerful bargaining associations, many of which were said to be illegal under strict interpretation of the law.

One of the earliest formed and most powerful of these producers' associations has been the Chicago Milk Producers' Association, numbering 16,000 members and controlling most of the milk that is shipped into Chicago or manufactured in the district immediately around Chicago. During the years immediately preceding the entry of the United States into the great war, this association bargained directly with the Chicago milk dealers as to what prices the farmer members of the association could get for their milk. They held a successful strike in April of 1916, and thereafter the Chicago milk dealers seemed to regard the association with considerable respect. The city press and the city politicians, however, felt that the farmers were too high-handed in their disregard of certain laws, and forthwith began agitation which finally resulted in indictments against the leaders in the Producers' Association.

In the fall of 1917, the milk producers adopted as their guide in arriving at milk prices what has been called Pearson's formula. According to this formula, the cost of producing a hundred pounds of milk in the Chicago milk district is equal to the cost of 44 pounds of grain, plus 188 pounds of silage, plus 50 pounds of hay, plus 39 pounds of bedding, plus 2.42 man hours of labor. To the valuation thus secured, certain differentials were to be applied to each month of the year, the widest differential being 120.3 per cent, in December, and the narrowest 70.6 per cent, in June. This formula was devised by Professor F. A. Pearson, of the Dairy Economics Division of the University of Illinois, after several years of actual cost accounting work in the Chicago milk district. It really represents actual cost of production on a large number of farms in certain specific years. Using Pearson's formula as a guide, the Chicago milk producers asked the dealers $3.71 per hundredweight for their milk in November, 1917. The dealers refused, and a strike was declared. The Food Administration intervened in an unofficial way and induced the producers to agree to a price of

$3.22 per hundredweight, pending an investigation by the federal government as to a price which should cover cost of production and a reasonable profit.

The Food Administration appointed as a committee to determine cost of producing milk plus a reasonable profit, six people of essentially city interests and three people of essentially agricultural interests. This committee took testimony during the months of December and January, and in their report took as a guiding principle in determining the cost of producing milk the ratio method. Early in December, the author was asked to present to the commission a profit and loss chart on milk produced in the Chicago district since January, 1907, the profits and losses being based on ratios between milk prices per hundredweight on the one hand, and a composite of corn, oats, bran, cottonseed meal, gluten feed, hay, and labor prices on the other hand. These latter ingredients were weighted roughly as in the Pearson formula, but corn was given greater emphasis. Incidentally, it is interesting to note as corroborative both of the ratio method and the cost-of-production method as employed by Professor Pearson, that the two methods give very similar results. Of course, it is conceivable that if Professor Pearson had made his cost accounting investigation in a year either of extremely good pasture or extremely poor pasture, the two methods would not agree. But taking as he did fairly average years, the results check very closely.

While the Chicago Milk Commission adopted the principle of the ratio method, it did so with certain modifications. To illustrate the method as adopted by the Chicago Milk Commission, we quote from the report as follows:

"The commission has therefore selected as a base, representing cost of production and a fair profit, the average sale price per one hundred (100) pounds over the years 1908 to 1915, inclusive. The result of course does not represent present value, due to the large advance in cost of feed and labor since that time. The quantity of feed and labor per one hundred (100) pounds of milk, however, is the same in both periods. Considering the eight-year period as a base and distributing feed and labor on a basis of 100 per cent total, the commission developed the following ratio: Nineteen per cent home-grown grains, 19 per cent mill-feeds (wheat, bran, wheat middlings, hominy, cottonseed meal, oil meal, gluten feed, dry salt), 35 per cent hay (including silage valued at the ratio of three tons of silage to one ton of hay), 27 per cent labor.

"It was agreed by the commission that variations in the prices of those four units represent with sufficient accuracy, when ap-

plied according to the above ratio, the increase or decrease in the cost of production of milk. The only criticism made to this base or this plan was by a minority of the members of the commission, that the price to the producer during the eight-year period referred to was not satisfactory to them.

"From the monthly price reports issued by the Department of Agriculture, the farm prices of home-grown grains and hay are obtainable, and from a reliable trade journal published in Milwaukee the wholesale prices of mill-feeds are obtainable. The average over the eight-year period from these records is as follows: Corn, $1.107 per hundred pounds; mill-feeds, $1.306 per hundred pounds; hay, 55.7 cents per hundred pounds.

"It appears fair to the industry that it is entitled to the same proportionate increase in the price of its product as has occurred in the elements which make up the product. From the records of the Department for November, 1917, the beginning of the period under consideration, the following prices prevailed, obtained from the same sources: Corn, $3.089 per hundred pounds; mill-feeds, $2.3655 per hundred pounds; hay, 78 cents per hundred pounds.

"The commission has considered from the evidence and such information as was obtainable that the price of labor in November represents 50 per cent advance over the average for the eight-year period. Using the proportion of feed and labor and prices over the eight-year period, and comparing with November prices from the same source of information and on the same products, we find the following ratio of increase:

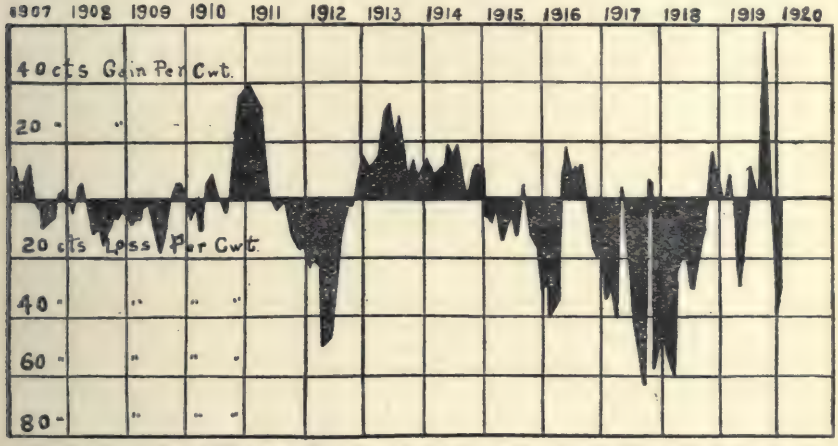
	Basic Index.	Eight-year period average.	November, 1917, price.	Pct. increase Nov., 1917, over 8-year period.	New Index.
Corn	19	$1.107	$3.089	179	53.01
Mill feeds	19	1.306	2.3655	81.1	34.41
Hay	35	.557	.780	40	49.00
Labor	27	.....	.....	50	40.50
	100				177

"The average price of milk per one hundred (100) pounds for the month of November, from 1908 to 1915, inclusive, was $1.768. Applying the new index ratio of 1.77, the November, 1917, price would be, therefore, $3.13. In the same manner, the price for any month may be determined by taking the average price over the eight-year period for that month and multiplying it by the index

figure, 1.77. It will be noted that by the use of this method the *ratio* of the costs of feed and labor between the average of the eight-year period and the November, 1917, period, is used rather than the actual prices of the commodities.

"The average monthly prices of milk per hundred pounds over the eight-year period were as follows: November, $1.768; December, $1.812; January, $1.781; February, $1.737; March, $1.60; April, $1.406; May, $1.15; June, $1.017. Applying this index, 1.77 November price, to these figures: November, $3.13; December, $3.20; January, $3.15; February, $3.07; March, $2.83; April, $2.49; May, $2.04; June, $1.80."

This report was signed only by the city members of the commission. The agriculturally-minded members and the Chicago



Illustrating when Chicago milk prices have been above and below their ten-year average ratio to feed and labor prices.

milk producers knew that the prices secured by the ratio method as advocated by the commission were not high enough to cover cost of production. The fault was in the method of application. Hay and labor between them were made to represent, according to the commission, 62 per cent of the total cost of producing milk, which is altogether too high a weighting. This bad weighting was made worse because of the fact that thoroly up-to-date figures on hay and labor were not available, and the figures which were taken were far lower than those existing at the time when the report was actually published. The converting of silage into terms of hay instead of into terms of corn is a matter open to grave question in view of the fact that silage production costs are almost identical with corn production costs, and the alternative market for silage is the corn market and not the hay market. Several other mis-

takes were made which might have been avoided if the method had been applied by a thoroly impartial body well versed in the technique of dairying as well as the weighting of agricultural index numbers. The unjust prices secured by the commission should not be blamed on the ratio method, but on the way in which it was applied. The finest scales are not dependable in the hands of an ignorant or a dishonest man.

We present herewith a historical milk chart indicating profits and losses from January, 1908.

A full description of the derivation of the Pearson formula is to be found in Bulletin No. 216 of the Illinois Experiment Station.

COST OF PRODUCING CROPS

THERE are two methods of determining the cost of producing crops—the cost-accounting method and the ratio method. The common method is the cost-accounting system, as employed by farm management investigators. For example, it has been found that the average farmer in the corn belt puts about twenty hours of man labor and fifty hours of horse labor on the average acre of corn. This divides up roughly into three hours of man labor and twelve hours of horse labor for plowing, three hours of man labor and twelve hours of horse labor for disking and harrowing, three-fourths of an hour of man labor and one and one-half hours of horse labor for planting, six hours of man labor and twelve hours of horse labor for cultivating, six hours of man labor and twelve hours of horse labor for husking, two hours of man labor and five hours of horse labor for manuring and miscellaneous. In addition to the man and horse labor charges are machinery expense, seed, manure or fertilizer, insurance and depreciation on the general overhead charges, and the rent of land. With man labor at 35 cents an hour, horse labor at 18 cents an hour, land rent at $12 an acre, and machinery and miscellaneous expenses at $4 an acre, the total cost of producing an acre of corn in 1919 was about $32. On extra good land, the rent was as high as $18 or $20 an acre, and the cost of an acre was increased accordingly. However, on extra good land the yield was decidedly above the average. The average acre yield in Iowa in 1919 was forty bushels, or the cost of producing a bushel of corn was roughly 80 cents on the farm in the month of December. The 1919 crop was decidedly above the average; with an average crop it would have cost the Iowa farmer right around 90 cents a bushel in such a year as 1919.

The ratio method when applied to corn corroborates the farm management investigational method. The ratio method is based on the supposition that the cost of producing corn varies with the cost of man labor, horse labor and machinery. For the sake of convenience, it is taken that the cost of horse labor varies with the price of corn, oats and hay, and that the price of agricultural machinery varies with that part of Dun's index known as metals. Roughly, it is figured that of the cost of producing corn in Iowa, 35 per cent is represented by land charge, 20 per cent by man labor, 15 per cent by corn (used either as seed or fed to horses), 10 per cent by hay fed to horses, 5 per cent by oats fed to horses,

10 per cent by Dun's metals, and 5 per cent by Dun's miscellaneous. Dun's metals are given a lag of two years, and Dun's miscellaneous of one year, owing to the fact that machinery and the miscellaneous overhead expenses entering into the cost of corn production become felt rather slowly.

Applying the ratio method, we will take as our base the ten-year period from 1897 to 1906. During this period Iowa land averaged about $50 an acre; harvest labor, without board, $2 a day; corn, 29.4 cents a bushel; hay, $5.47 a ton; oats, 23 cents a bushel; Dun's metals, about $14, and Dun's miscellaneous, about $15. The average acre of Iowa corn during this ten-year period was worth on a December 1st farm basis $10.

Now, in 1919, Iowa land was worth about $192 an acre, or 384 per cent of the basic ten-year period; man labor, without board, at harvest time was around $5.20 a day, or approximately 260 per cent of this ten-year basic period. In like manner, corn was 410 per cent; oats, 280 per cent; hay, 330 per cent; Dun's metals, 230 per cent, and Dun's miscellaneous, 230 per cent. If land is allowed a weighting of 35 per cent; man labor, 20 per cent; corn, 15 per cent; hay, 10 per cent; oats, 5 per cent; Dun's metals, 10 per cent, and Dun's miscellaneous, 5 per cent, we arrive at 329 per cent as the cost of producing an acre of corn in 1919, as compared with 100 per cent for the basic ten-year period. In the basic ten-year period, an acre of corn actually sold for $10. In 1919, in order to come as near breaking even as in the basic ten-year period, an acre of corn should sell for $32.90. The ratio method gives almost identically the same results as the farm management method. Both indicate that it cost the average Iowa farmer in 1919 about 80 cents to produce a bushel of corn on a basis of December 1st farm values.*

The ratio method may be applied to other crops by using a somewhat different weighting of the production factors. In the case of oats in Iowa, for instance, land may be given a weighting of about 35 per cent; man labor, 15 per cent; corn, 10 per cent; hay, 10 per cent; oats, 15 per cent; Dun's metals, 10 per cent, and Dun's miscellaneous, 5 per cent. This would indicate that oats in Iowa in 1919 cost about 324 per cent as much as in the basic ten years. In the basic ten-year period, the average acre of oats in Iowa sold for $8. We may therefore conclude that the

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*The chart printed in connection with the chapter, "Pork Exports, the Barometer of Corn Belt Prosperity," gives forty-four years of profit and loss areas per acre of corn in the twelve north central states, the method used being the ratio method as described in the above.

cost of producing oats in 1919 was 324 per cent of $8, or $25.92. With an average yield of thirty-three bushels per acre, the cost per bushel was about 78 cents on a December 1st farm basis.

Manifestly, the weak point in the ratio method of determining cost of producing crops is the character of the basic period. Did the crops actually sell during the basic ten-year period for cost of production? Manifestly, in some years they sold for less, and in some years they sold for more. As an average of the entire ten-year period, they must have sold for at least cost of production, or farmers would gradually have reduced their acreage of the particular crop under consideration, or else gone out of business entirely. As a matter of fact, in the ten-year period under consideration, 1897-1906, land values were constantly advancing. It would seem, on the whole that this particular ten-year period is a fair one to use, and that as an average of these ten years crops sold for approximately cost of production, no more, no less.

It is always conceivable that over long periods of time there might have occurred changes in supply or demand conditions that would make the basic ten-year period altogether false for the purpose of comparison. For example, in the case of oats, it is conceivable that tractors, trucks and automobiles might so displace horses as to make the city demand for oats decidedly less than during the ten-year period extending from 1897 to 1906. The oats acreage might therefore be considerably decreased, and oats be produced in large quantities only in those sections especially adapted to growing oats. It is conceivable, therefore, that the ratio method may possibly give the cost of oats production at rather too high a figure, a figure impossible of realization, one year with another. In the case of standard crops, however, there is remarkably little change in either supply conditions or demand conditions. Methods of producing corn are pretty well standardized. The market for corn is almost equally stable. It is believed that the ratio method of determining cost of corn production will be approximately accurate for the next fifty years.

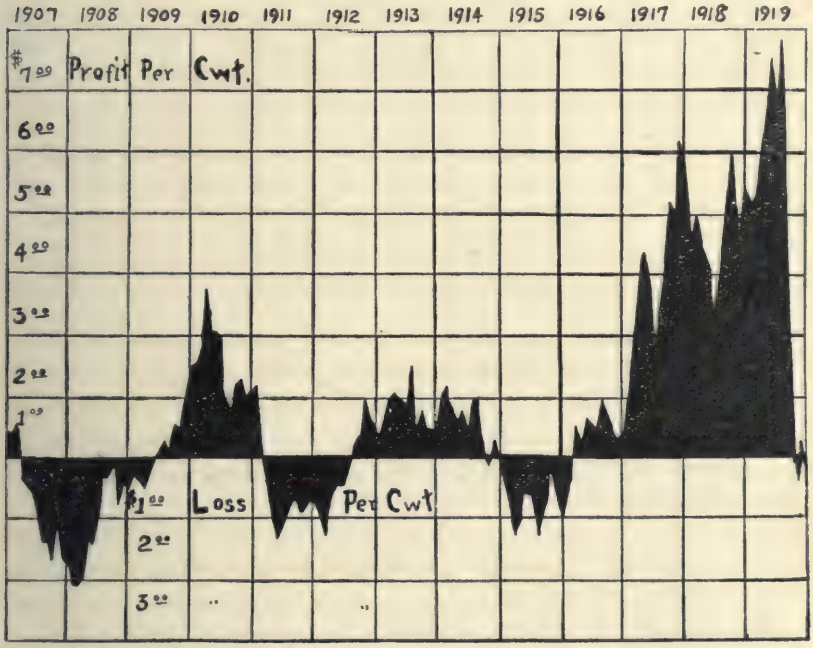
CONSUMERS' RATIOS

DURING the past fifty years, a number of people have set themselves to work to measure the shifting economic tides with index numbers. The more complete of these index numbers really undertake to measure the changing value of the dollar. In July of 1914, for instance, Dun's index number was $119.71, which meant that it required $119.71 to buy a certain given amount of wheat, corn, oats, pork, beef, butter, eggs, wool, hides, pig-iron, lumber, petroleum, etc. On September 1, 1919, it required $238.34 to buy these same goods. The dollar of July of 1914 had become worth about 50 cents in September of 1919, in its ability to buy wholesale products. The consumer, in his buying, has certain choices. The man who thinks pork is too high in price can shift to beef or mutton; or he can leave meat altogether out of his ration and secure the needed nutrients in dairy or poultry products.

The producers' ratios, as described in preceding chapters, have to do fundamentally with supply conditions. They deal with the relation between a raw product and a more finished product. They are concerned, but not immediately, with demand conditions. The attempt in this chapter is to develop a ratio which gives more particular weight to demand conditions. Therefore, ratios are developed between a standard index number on the one hand and a given commodity on the other. However, because index numbers include some of the items of expense entering into the production of any commodity, such a ratio also represents to a considerable extent a producers' ratio.

To understand the matter more definitely, we shall look into the ratio actually prevailing between Dun's index number and Chicago hog prices. As an average of the ten-year period, 1907-1916, Dun's index number in January has averaged $120.16, whereas hogs during the same period have averaged $6.99 per hundredweight. In other words, live hogs have sold per hundredweight for about one-seventeenth of the value of Dun's index number. On this basis, in January of 1907, the index price of hogs was $6.24, whereas the actual price was $6.60, or 36 cents higher. In January of 1908, the index price of hogs was $6.59, whereas the actual price was $4.45, or $2.14 lower. And so it goes. For the period of a year or two, hogs will sell proportionately higher than other commodities, and then for a like length of time they will sell lower. This is graphically illustrated in the accompanying chart.

This chart, it will be noted, is very similar in appearance to the corn-hog ratio chart. The chief point of difference is in 1917 and 1918, during which time hogs sold relatively higher than an average of other commodities, as indicated by Dun's index number, whereas they were relatively lower than corn. War conditions, creating an unprecedented demand for breadstuffs, raised grain prices out of all proportion to other commodities. On studying this chart closely, it will be noticed that there is a tendency, generally speaking, for hogs to sell relatively cheap to other commodi-



Illustrating the departure of Chicago hog prices from the ten-year ratio between hog prices and Dun's index number.

ties a few months in advance of the time that they sell relatively cheap to corn, and vice versa. In other words, the variations shown on the chart as given in this chapter are often two or three months ahead of the chart as given in the chapter on corn-hog ratios.

A historical study of the ratio between index numbers and Chicago steer prices indicates that steer prices swing first above and and then below their index number value in periods of from five to nine years each way, with an average of around seven years.

The 1907-1916 ratjo between Dun's index number and wholesale prices of certain farm products is given in the following table:

	Heavy hogs at Chicago, per cwt.	1,200 to 1,500-lb. steers at Chicago per cwt.	Butter extras at Elgin, cents per pound.	No. 2 corn at Chicago, cents per bushel.
January	.0583	.0597	.263	.499
February	.0604	.0593	.255	.503
March	.0638	.0620	.251	.514
April	.0652	.0631	.241	.537
May	.0631	.0636	.215	.555
June	.0632	.0655	.212	.551
July	.0638	.0659	.212	.572
August	.0638	.0670	.219	.602
September	.0642	.0665	.233	.582
October	.0620	.0656	.242	.559
November	.0578	.0634	.254	.537
December	.0568	.0621	.264	.518

With Dun's index number at $245 for December of 1919, the method of finding the index price of hogs is to multiply $245 by .0568, which gives $13.92.

It is not claimed that the ratio between Dun's index number and hogs, for instance, is as constant as the ratio between hogs and corn. In the decade of the '60's, hogs sold for one-third lower in relation to Dun's index number than in the decade ending in 1916. There has been a constant tendency for farm products to sell constantly higher in relation to Dun's index number. And this tendency doubtless will continue until population becomes stationary, altho there may be several years at a time when the tendency is apparently halted because of improvements in agricultural efficiency. In the main, the possibility of improvements in industrial efficiency is so much greater than in agriculture that we may expect that agricultural prices will stand in constantly higher ratio to other prices, until finally the increase in population is checked.

Working out ratios between Duns index number and retail prices as reported by the Bureau of Labor Statistics, we find that as an average of the 1907-1916 period, .183 of Dun's index number

represented the price of sirloin steak in cents per pound. For other commodities sold at retail the ratio factors were:

TABLE 1.

Round steak, per pound	.159
Rib roast, per pound	.148
Pork chops, per pound	.157
Bacon, per pound	.206
Ham, per pound	.199
Lard, per pound	.122
Hens, per pound	.165
Eggs, per dozen	.267
Butter, per pound	.294
Milk, per quart	.071
Flour, per bag of 24.5 pounds	.722
Corn meal, per pound	.023
Potatoes, per peck	.243
Sugar, per pound	.051

It is interesting to note that in September of 1919, when there was a universal outcry against retail prices, an outcry vigorously encouraged by notoriety-seeking politicians, that retail prices were about as might have been expected from Dun's index number. Dun's index number was $238.34 on September 1, 1919, and the first column of Table 2 gives the retail price which we might expect by applying the standard ratios. The second column gives actual prices on September 15th, as reported by the Bureau of Labor Statistics:

TABLE 2.

Sirloin steak, per pound	$ .436	$ .409
Round steak, per pound	.379	.379
Rib roast, per pound	.352	.312
Pork chops, per pound	.374	.460
Bacon, per pound	.490	.556
Ham, per pound	.474	.552
Lard, per pound	.291	.382
Hens, per pound	.393	.414
Eggs, per dozen	.636	.632
Butter, per pound	.701	.657
Milk, per quart	.169	.157
Flour, per bag of 24.5 pounds	1.721	1.790
Corn meal, per pound	.055	.067
Potatoes, per peck	.579	.645
Sugar, per pound	.122	.110

The factors as worked out in Table 1 are ratios between yearly average retail prices and yearly average Dun's index numbers. Even retail prices, however, have some seasonal swing. For instance, meats tend to be cheaper in the winter than in the summer, whereas butter and eggs tend to be cheaper in the summer than in th winter. Because of the seasonal swing, the first column of Table 2 is not absolutely accurate. For instance, the retail price of sirloin steak in September is usually about 2 per cent higher

than the yearly average, and, corrected for the month of September, the price should have been 44.5 cents, instead of 43.6 cents. On the same basis, the seasonally corrected price for butter for September, 1919, was 68.6 cents, instead of 70.1 cents.

In the main, however, Table 2 is fairly accurate as it stands. It will be noted that with the exception of hog products, wheat and potatoes, retail prices in September of 1919 tended to be lower than their normal ratio to Dun's index number.

Possibly a consumers' attack on the price of pork products, wheat and potatoes was warranted in September of 1919. It must be remembered, however, that there was supposedly a world need for hog products and wheat at that time, and that potatoes were unduly high on account of a short crop.

Consumers should be educated in the use of index numbers and to an understanding of normal ratios between index numbers and the various commodities which they buy. In times of violent price fluctuations they should know just what is the index price of the commodities whose prices are acting in a questionable way. At the same time they should realize that the index price is not necessarily the just price. However, the index price gives a basis upon which the consumer may work. He may then inquire why it is that the actual price departs from the index price. In May of 1918, for instance, the index price of corn in Chicago was $1.25, whereas the actual price was $1.60. The actual price was above the index price partly because of a poor quality corn crop in 1917, but particularly because of an unprecedented demand for breadstuffs. Nevertheless, everything considered, the consumer may have had some basis for resentment against the high price of corn and corn products, whereas if he had studied the milk and butter situation, he would have seen that the dairy products were being sold at a real bargain. Strange to say, consumers kicked vigorously against milk prices, but had nothing to say about corn prices. Consumers are always concerned with superficial appearances, never with fundamental causes. And this characteristic of city consumers, combined with an unscrupulous, ignorant city press, is a grave menace to our civilization.

TECHNIQUE OF THE RATIO METHOD

THE fundamental idea of the ratio method is that the price of every product is determined in the long run by the price of some other product or products. The price of hogs is determined in the long run by the price of corn. The price of corn is determined in the long run by the price of land, labor, farm machinery and horse feed.*

In its simplest form, the ratio method deals with only two products, as for example, with hogs and corn. As an average of the ten Januarys extending from 1907 to 1916, No. 2 corn on the Chicago market sold for 59.9 cents a bushel, and heavy hogs on the same market sold for $7 per hundredweight. In other words, as an average of this ten-year period, it has required the value of 11.7 bushels of corn to equal in value one hundred pounds of heavy hog flesh. In the specific month of January, 1907, corn was 41.6 cents per bushel. The corn price of hogs was 11.7 times 41.6 cents, or $4.87. The actual price of hogs in January, 1907, was $6.60. Actual hogs sold for $1.73 above the customary corn-hog ratio. In January of 1908, with corn at 58.5 cents a bushel, the corn price of hogs would be 11.7 times 58.5, or $6.84. The actual price was $4.45, or $2.39 below the ratio price. The ratio for February is different from the ratio for January, but once a set of ratios is secured for each of the twelve months of the year, it is easily possible to work out charts showing month by month the periods of time when hogs were selling relatively higher than their customary ratio to corn, and when they were selling relatively lower.

It is absolutely necessary to work ratios month by month, or week by week, in the case of all products which have a seasonal swing. Nearly all agricultural products are cheap in the fall of the year. Some products begin weakening sooner than others; for instance, oats and wheat weaken sooner than corn or hogs.

A genuinely scientific method of applying the ratio method to hog prices would also take into consideration that hogs are to some extent made out of tankage, pasture and labor, as well as corn. Of course, these things vary in value in a rough way, in just about the same way as corn prices, and for practical purposes, the ratio between hogs and corn is probably exact enough.

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*It may be argued that the price of hogs determines the price of corn, and that the price of corn determines the price of land. This to a large extent may be true, and yet not interfere with the usefulness of the ratio method for purposes of price judging.

As an example of a more complex application of the ratio method, assume that after thoro investigation by the farm management people, it is found that on typical farms 70 per cent of the cost of producing hogs is represented by corn, 5 per cent by tankage, 3 per cent by oats, 3 per cent by pasture, 2 per cent by middlings, 6 per cent by man labor, and 11 per cent by miscellaneous items, such as risk, interest, etc., all of which vary in about the same ratio as the other items already enumerated. Spreading the 11 per cent of miscellaneous items over the other items, we find that of the cost of producing hogs, 78 per cent is represented by corn, 3 per cent by oats, 6 per cent by tankage, 4 per cent by pasture, 2 per cent by middlings, and 7 per cent by man labor. Now, as an average of the ten-year period, 1907 to 1916, the value in the month of January, at Chicago, was 59.9 cents for corn and 43.4 cents for oats. The value of middlings on a Milwaukee basis was $22.77 per ton. The value of tankage (this is a rough estimate) was $46 per ton; the value of pasture land, $66 per acre. and the value of an hour of man labor 14.6 cents. Hogs averaged $7 per hundredweight.

According to the ratio theory, this ten-year average price of $7 per hundredweight for hogs must represent approximately cost of production. Seventy-eight per cent of $7 gives $5.46 as the share of corn in the production cost, and in like manner 21 cents is the value of the oats, 42 cents the value of the tankage, 28 cents the value of the pasture, 14 cents the value of the middlings, and 49 cents the value of the man labor. With corn at 59.9 cents a bushel, as it was during this ten-year period, and other feeds at prices as mentioned in the foregoing, it is obvious that it required, to equal one hundred pounds of hog weight, the value of 9.1 bushels of corn, one-half bushel of oats, one-two hundred and fiftieth of the value of an acre of ordinary rough pasture land, twelve pounds of middlings, eighteen pounds of tankage, and 3.4 hours of man labor. In the specific month of January, 1907, corn was worth 41.6 cents; oats, 35.4 cents; middlings, $18.37; ordinary rough pasture land, $51 per acre; tankage, $40 a ton, and man labor, 13 cents an hour. Nine bushels of corn at 41.6 cents gives $3.78; half a bushel of oats at 35.4 cents gives 18 cents; twelve pounds of middlings at $18.37 per ton gives 10 cents; one-two hundred and fiftieth of the value of an acre of ordinary pasture land, at $51 per acre, gives 20 cents; eighteen pounds of tankage at $40 per ton gives 36 cents, and 3.4 hours of man labor at 13 cents gives 44 cents. Adding, we get $5.06 as the cost of producing hogs in January, 1907. In January, 1908, with corn at 58.5 cents per

bushel, oats at 49.9 cents, middlings at $22.62 per ton, tankage at $40 per ton, pasture at $51 per acre, and man labor at 13 cents an hour, we find, by applying the same formula, that the cost of producing one hundred pounds of hogs was $6.69. The straight corn ratio method gave $4.87 for January of 1907, and $6.84 for January of 1908, departing from the more complex ratio on the minus side by 19 cents in 1907 and on the plus side by 15 cents in 1908. The results are so nearly alike that in the case of hogs we think that it is ordinarily satisfactory to depend on corn ratios alone, altho in the case of such products as milk and butter it is well to include feeds other than corn and to use a method similar to that just outlined.

In order to allow the general public to judge of the merits of wage increases, strikes and price advances, it would be well if the ratio method might be applied to manufacturing and mining industries; for instance, in the case of coal, it might be shown (these figures are purely illustrative and possibly are wide of the facts) that 40 per cent of the cost of producing coal is labor, 20 per cent machinery charge, and 40 per cent risk, interest on investment and similar factors, which vary in just about the same ratio as the other two factors already mentioned. Distributing this 40 per cent miscellaneous charge, we get 67 per cent of the cost of producing coal represented by labor and 33 per cent by machinery charge. Now, assume that in 1920 the labor charge has advanced over the ten-year base by 90 per cent, and the machinery charge by 110 per cent. Multiplying 67 by 190 and 33 by 210 and adding, we find that on this basis coal in 1920 should be about 94 per cent above the ten-year base. If the ten-year base is $3.50 per ton, the proper price for coal in 1920 should evidently be somewhere around $6.80 per ton.

Of course, it is obvious that anyone applying the ratio method must be thoroly familiar with the industry under consideration. There should be, however, competent experts in whom the public has confidence, to express for the benefit of the public, in ratio form, the cost-of-production price of all staple products, and possibly labor as well.

Our grade schools and our high schools should train their students to have an appreciation of the ratio method of determining prices. An appreciation of this sort developed in the minds of the bulk of our people would do much to stabilize the price system, preventing undue excesses, and yet allowing prices which cover in a fair way cost of production.

LIMITATIONS OF THE RATIO METHOD

THE ratio method, while astonishingly accurate as a method for ascertaining production costs, is not infallible. In the case of hogs and corn, for example, the ratio has remained constant, decade by decade, for sixty years. It is always conceivable, however, that a change in production methods will come which will enable farmers to produce hogs for less than the 11.5-bushel ratio. It is also conceivable that as population increases, there will be a smaller premium put on meat and a greater premium put on grain, with the result that the standard ratio will fall below eleven bushels. But in any event the change will be slow, and in all probability the ratio of the fifty years from 1925 to 1975 will not fall below 11 bushels.

In the case of such products as butter, where improvements in method count for more than in the case of hogs, there is more likelihood of the standard ratio changing as time goes on. In the case of such standard crops as corn and wheat, there is small probability of great change in the standard ratios. Any undue and prolonged profit will be promptly absorbed by land values and labor wages.

About the only technological improvement which would throw the standard ratios altogether out of line would be the discovery of how to make food out of air and water by manufacturing processes.

The ratio method, when used in price fixing, rather than in price judging, is open to several objections. Under a *laissez faire* system it may be necessary for months at a time to cater to the consumers by selling food at below the ratio or cost-of-production price. And again it is possible for months at a time to gouge the consumer by selling food above the ratio or cost-of-production price It is only as farmers, consumers and business men become educated to the desirability of prices more nearly approximating cost of production that the ratio system can be used extensively in actual price fixing. When it is so used, there will be less likelihood of over-production on the one hand and under-production on the other hand.

Wherever the ratio system comes to be used in actual price fixing, it will be open to the criticism that prices will start pyramiding. For example, in the case of hogs and corn, a guaranteed ratio may increase the price of corn, and this in turn the price of hogs, and so on in a never-ending climb. The reverse is also imag-

inable. In the case of fixing crop prices by ratio, it is imaginable that land values would constantly increase, and this would increase the price of crops, which again will be reflected back into land, and so on in a never-ending cycle. Economists like to dwell on situations of this kind. They are to a large extent purely imaginary. To stop a vicious rise under the ratio system, a rise which would bring about an over-production, all that would be necessary would be to very slightly lower the standard ratio. In the case of hogs, for example, it might be necessary to lower the ratio from 11.5 bushels to 11.2 bushels.

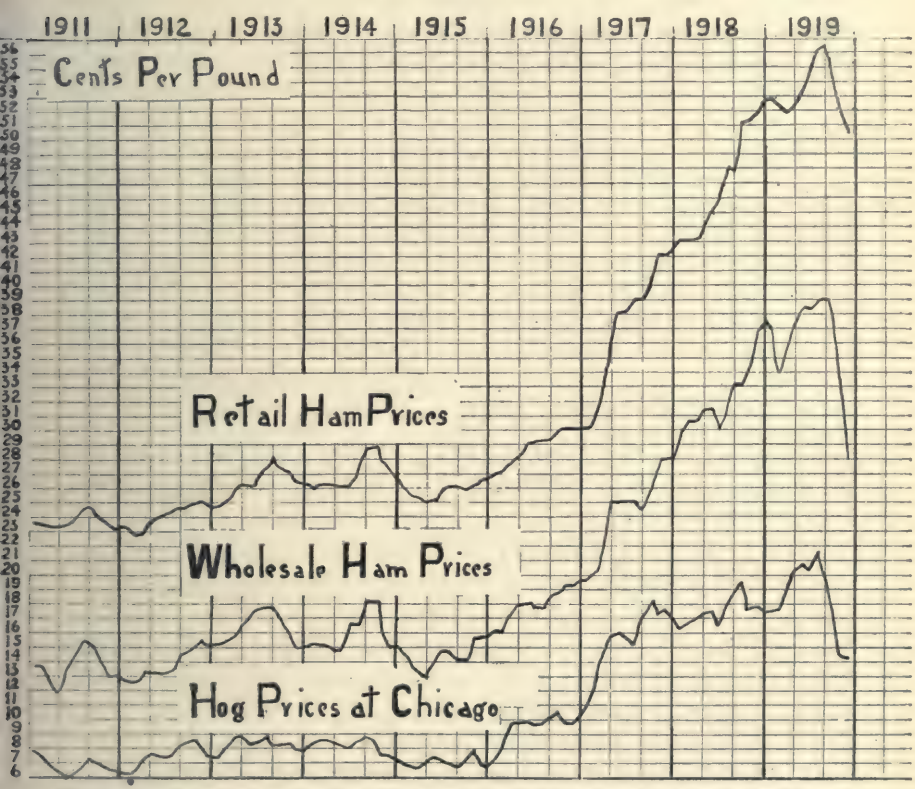
However, in all that is said concerning the ratio method of judging prices, there is no intention to prescribe any definite method of using the system. The chief function of ratios will doubtless continue to be educational. It is hoped that a knowledge of standard ratios by large numbers of people will suffice to stabilize prices at more nearly cost of production and to stabilize production at a point more nearly identical with normal demand.

RETAIL AND WHOLESALE PRICES

THERE has been much outcry in recent years against the retailer. Unquestionably, the retailer is working under a cumbersome distributive system which burdens the consumer with prices fully 20 per cent too high. It is commonly recognized that this extra 20 per cent does not represent retailers' profits, but that it is used simply to perpetuate a system which will cater most effectively to the whims of indolent housewives. The cure for the system is for consumers to organize themselves into co-operative buying associations. When consumers are willing to band themselves together in such associations, to anticipate their needs of staple products by ordering ahead, it will be possible to furnish such products at very little above wholesale prices. In fact, it is conceivable that under such a regime co-operative consumers might buy of co-operative producers. All this, however, involves infinitely more foresight than the average citizen or his wife cares to exercise. Also it involves putting a vast number of small grocerymen out of business. In the long run, this will be a good thing for every one, but the immediate effect will be a great outcry against interfering with legitimate business, and the issue will be obscured by the customary smoke screen used by scared business men.

As long as we cling to our present retail system, it is worth while to know the standard differential between retail prices on the one hand and wholesale prices and farmers' prices on the other hand. For instance, in 1913, ham quite customarily retailed at around 26 or 27 cents a pound, whereas the wholesale price at the same time was around 16 or 17 cents a pound, and farmers were selling their hogs at around 8 cents a pound. It was a fairly normal state of affairs, previous to the war, for ham to sell retail at 10 cents a pound above the wholesale price, or 18 cents or 19 cents a pound above the price of hogs. Just what the normal differential will be, now that the war is over, can not be foretold with accuracy. As long as we are on a price level twice as high as in 1914, it is obvious that the differential between retail and wholesale prices will be just about twice as great. The retailer may not pay quite twice as much to his labor, and he may not pay quite twice as much rent, but he will have to have twice as much operating capital, and his bad debts will probably be twice as great. At this writing, early in 1920, it seems obvious that the retailers should be allowed to have a differential fully 80 per cent

larger than before the war, if they are to fare as well as most other classes. As a matter of fact, the retailers now seem to be selling ham at a differential of about 18 cents a pound over the wholesale price and about 36 cents a pound over the price of hogs. In the case of ham, the retailers began demanding an increased margin in May of 1917, the month after the war broke out. They kept increasing the margin as opportunity presented itself, but not till the summer of 1919 were the retailers able to widen out the dif-



Illustrating how the differential between farmers' price and wholesale and retail price widens in proportion to the higher price level.

ferential between retail and wholesale prices sufficiently to cover the cost of doing business on a price level twice as high as in 1914.

The facts concerning the retail price of ham, wholesale price of ham, and price of hogs, are presented in the accompanying chart. Other retail prices are given in the appendix, and it is possible from the figures there presented to work out normal differentials for such products as wheat and wheat flour, corn and corn meal, sirloin steak and cattle, etc.

PORK EXPORTS THE BAROMETER OF CORN BELT PROSPERITY

FOR years we have exported from the United States more corn in the form of pork than in the form of shelled corn or corn meal. In recent years we have been exporting an average of about 40,000,000 bushels of corn in the form of corn and corn meal, whereas we have been exporting the equivalent of about 130,000,000 bushels of corn in the form of pork products. And for the year 1919 we exported the equivalent of about 350,000,000 bushels of corn in the form of pork.

There is an extraordinary sympathy between the corn and hog industries. True it is that we feed almost as much corn to our horses as we do to our hogs, but the corn which we feed to horses is for the purpose of keeping the farm plant running. The corn fed to horses does not bring in direct cash returns in the same way as the corn fed to hogs. Nearly one-third of all our corn is fed to hogs, and from the standpoint of market strategy, this third which is fed to hogs counts more than the other two-thirds. The demand for the other two-thirds by horses and cattle and by the grist mills of the towns and cities is practically stationary from one year to the next. It is the corn which is fed to hogs that varies so greatly from one year to the next.

For the first ten months of 1919, the value of the pork products exported from the United States was $778,000,000, or about one-eighth of the value of all the exports from the United States for this period. The only other product of practically equal magnitude with pork products was cotton, with a total value of $775,000,000 for the first ten months of 1919. Wheat and wheat flour, which most people think rank decidedly above the value of pork products, totaled during this period $556,000,000. Corn and corn meal exports during this period were worth an insignificant $15,000,000. Of course we are now exporting more pork products than ever before in history, but even before the war the corn belt expressed itself in international trade pre-eminently thru its exports of pork products. The ham, bacon and lard of the corn belt are comparable with the wheat of the northwest and the cotton of the south.

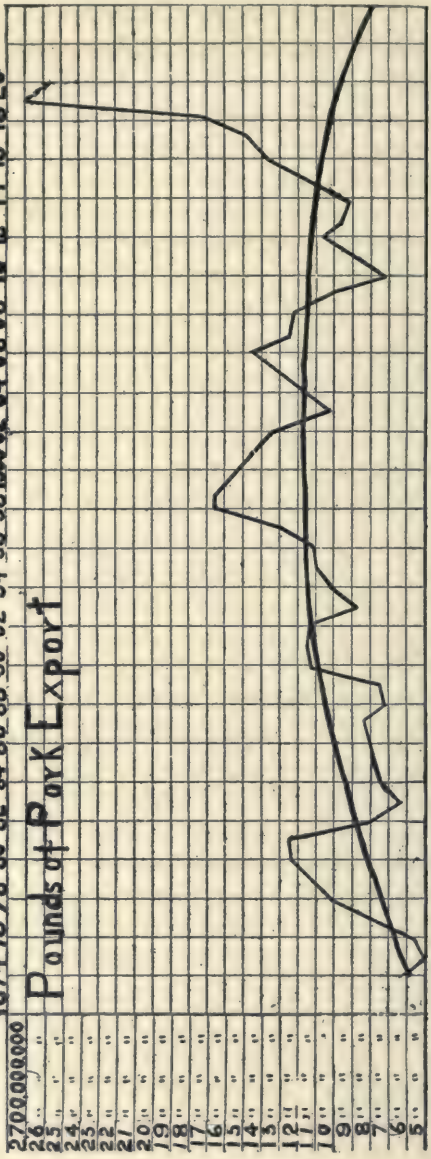
Before the war, we exported every year the equivalent of about five or six million hogs. Last year we exported the equivalent of thirteen or fourteen million hogs, nearly one-fifth of our total pro-

duction. Exports dropped off during September, October and November, but this is a customary seasonal occurrence, and there is now the prospect of a resumption of a tremendous exportation of hog products during the winter and early summer.

The two charts printed herewith indicate the very close connection between pork exports and profits in corn raising. The chart giving the profits and losses on the average acre of corn for the past forty-five years is re-published from Wallaces' Farmer of May 17, 1918, the profits for the years 1918 and 1919 having been added since. It will be noted that the other chart gives the exports of hog products in pounds from the United States year by year. The exports are in fiscal years, ending on June 30th. It will be noted that in a broad, general way, there is a considerable relationship between the two charts. When pork exports have been less than normal for a year or two, there is a decided tendency for corn to become unprofitable, and vice versa. Note how the big hog exports, starting in 1877 and continuing thru 1881, were accompanied by a period of unusual corn profits. Note how the falling off in hog exports, starting with 1882 and continuing until 1890, was also accompanied by unprofitable corn crops. Then there was a temporary turn for the better in both corn and hog exports in 1890 and 1891, and a sag in both until 1897, when hog exports picked up and continued to pick up to a very marked degree for several years, the change in hog exports being slowly reflected in corn profits. Generally speaking, pork exports seem to lead the way, and corn tags along behind. During the war years, however, corn seemed to move just about as fast as hog exports. The first year of really heavy hog exports was the year ending June 30, 1916, and the first corn crop to sell unusully high was that harvested in the fall of 1916. The corn crops of 1916, 1917, 1918 and 1919 have all been extraordinarily profitable, and the pork exports during these same years have been unusually heavy. Unquestionably, there is a very close relationship between hog exports and the general level of corn prices. We do not mean to say that there is a month-by-month relationship, or even a year-by-year relationship. We do mean to say, however, that it is impossible for the United States to export an unusual volume of hog products without sooner or later raising corn prices. It may take a year or two for the effect to be felt by corn, but sooner or later the influence seems to be inevitable.

Heavy hog exports make for higher corn prices, and higher corn prices make for higher values in corn belt farm land. Without much question, the fundamental cause of corn land rising so

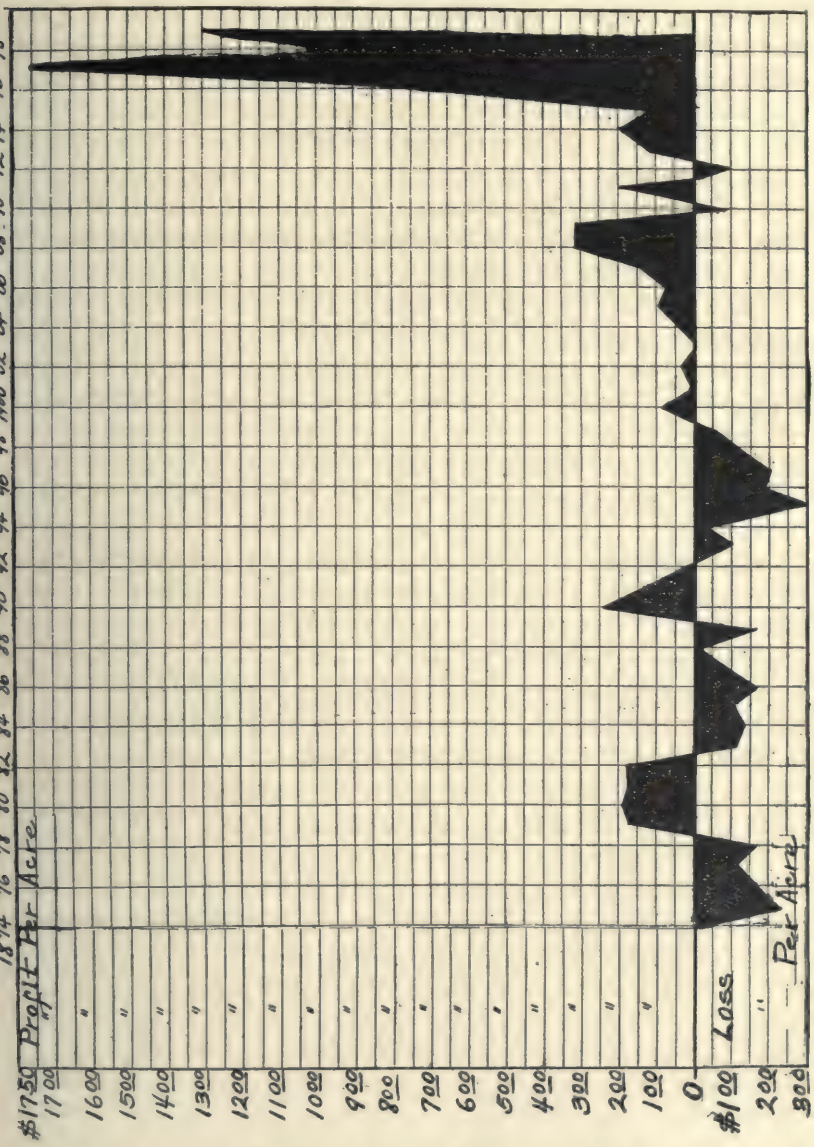
much more rapidly than land in other sections is the unusual volume of pork products starting with the year 1916. It would have been impossible for the corn market to have reached or sustained



Curved ine indicates the normal trend of pork exports from the United States. When the irregular line is above the curved line, pork exports are unusually large. Large pork exports beginning with 1877 caused the corn belt prosperity beginning with 1879. Large pork exports beginning with 1898 initiated the corn belt prosperity beginning with 1920. The 1920 figure is a preliminary estimate.

its high altitude without the prop of such tremendous hog exports. In view of the evidence presented, we make bold to say that hog exports furnish a most delicate barometer of corn belt prosperity.

The huge volume of pork exports during the past three years is the explanation of corn belt land rising faster than in other sections. Iowa raises twice as many hogs as any other state, and this doubt-



Corn profits and losses in the twelve north-central states, as determined by the ratio method described in the chapter on "Cost of Producing Crops."

less is the reason why land in Iowa has risen faster than in any other state.

What of the future? Is there any chance that pork exports will maintain their present volume? We may as well face the issue

squarely and come to the conclusion that in all probability pork exports, within three or four years, will decline to about one-third their present volume. For four or five years previous to the war, the tendency of pork exports was somewhat downward. It is reported that at that time Great Britain was buying less and less of her hog products from the United States, and that she was thinking of buying more and more of her coarser quality of hog products from China. At the present time there is considerable Chinese bacon on the English market. It is also worth while to note in this connection that the English consumption of meat is now 1,200,000 tons, which is 600,000 tons less than her pre-war consumption of meat. If England has cut down on her meat consumption one-third, the probabilities are that the continent of Europe has cut down on its meat consumption one-half. Probably never again will the world eat as much meat per capita as it did before the war. Whether we like it or not, we may as well face the probability that our pork exports are on the decline, and will not stop declining until they are down to about one-third of the 1919 volume.

And we may expect that this decline in pork exports will have some influence on corn prices, and therefore on corn land prices. The future situation is of course considerably different than that which has existed at any time during the past forty-five years. The volume of money in circulation may be such that there will be no actual decline in corn prices or in corn land prices. Just the same, we may expect that the unusually favorable position which has been enjoyed by the corn belt during the past three years will disappear with the decline in pork exports.

Previous to the war, Great Britain and Germany absorbed more of our pork exports than any other nations. Great Britain took 73 per cent of our pork exports, 86 per cent of our exports of hams and shoulders, and 36 per cent of our lard exports. Germany took 30 per cent of our lard exports and practically nothing in the way of bacon, hams or shoulders. Cuba, Holland and Belgium were the other large importers of American hog products, but these three nations together required only about one-tenth as much as Great Britain. If Great Britain cuts down her consumption of meat to two-thirds what it was before the war, she will be much more nearly self-supporting from a meat standpoint than she is now, and probably will not import from the United States more than one-half as much meat as she did before the war. Great Britain owes considerable money to the United States, and, moreover, in the future she will not get from the United States in such large measure ocean freight charges on the British merchant ma-

rine. In the old days, Great Britain had a considerable credit balance coming to her every year from the United States, and she took a large part of this in the form of pork products. Now that the situation is reversed, it is difficult to see how Great Britain can import as much in the way of hog products from the United States as she did before the war. True it is that for the year 1919 she has imported about three times as much from the United States as before the war, but once the present emergency is past, it seems obvious that Great Britain will cut her pork imports down to the minimum.

In the case of Germany, the situation is even worse. Germany, which normally took 150,000,000 pounds of lard from us every year before the war, must now pay the allied nations an indemnity every year of at least $600,000,000. In order to pay this huge sum, Germany must cut her imports down to the absolute minimum, and become extraordinarily efficient in exporting. For the next two or three years, Germany may perhaps import more lard from us than she did before the war, but, as rapidly as possible, Germany will re-establish her swine industry and reduce the imports of American lard.

We may be painting the situation too black, but we can not see how our pork exports, by the year 1925, can total to more than 800,000,000 or possibly 900,000,000 pounds, which is less than one-third the 1919 volume of exports. Of course, another war may break out in the meantime, or some other extraordinary thing may happen, but in the ordinary course of events, it would seem that our pork exports must inevitably decrease until they are considerably less than the pre-war normal. And it would seem that this decrease in pork exports will have a very considerable bearing on corn prices, which will in turn have a bearing on corn land prices. Again, we wish to say, however, that we do not necessarily believe that corn land in 1925 or 1930 will be selling cheaper than it is today. Prices of all kinds doubtless will continue to be high in 1925 and 1930, for the simple reason that inflated currency the world over will still continue. The point we are trying to make is that once hog exports decline to the pre-war normal, or less, corn belt farming will cease to enjoy the unusual advantage which it had during the war. It may for a time be relatively less profitable than farming in certain other sections of the United States.

There are many curious paradoxes in the hog export trade in the United States. While a heavy export of hog products sooner or later means high corn prices, high hog prices and corn belt prosperity generally, yet as a usual proposition, heavy hog exports do

not start except in times of unusually low hog prices. The heavy exports of 1877-1881 did not start till hogs had declined below $5 a hundred, and reached their height while hogs were $3 to $4 a hundred. In 1882, when hog prices climbed to over $8 per hundred on the Chicago market, hog exports promptly fell off, and did not climb again until hog prices again went below $4 a hundred, in 1890. In early 1893, when hog prices on the Chicago market climbed up to nearly $8 a hundred again, hog exports dropped off very suddenly. They did not pick up at once in 1896, when hog prices went under $4 again, but did pick up very rapidly in 1897 and 1898, during both of which years hog prices on the Chicago market were under $4 a hundred most of the time. In 1902, there were heavy exports, in spite of the fact that hog prices were relatively high, but by 1903 the British apparently had had enough of buying high-priced pork on the American market, and they curtailed their importations very decidedly. Again, in 1910, the exceedingly high prices stopped the export demand. During the past three years there have been unprecedented exports in spite of unusually high prices. But as a matter of fact, hog prices in the United States have been cheaper during the past three years than any place else in the world. We have been selling hogs at a great bargain, or Great Britain would not have bought such tremendous quantities from us.

A thoro study of the exports of the United States month by month from January, 1903, thru the year 1914, indicates that there is a continual tendency for hog exports to be large when hog prices are low, and vice versa. The correlation coefficient between hog prices and hog exports is minus .52. There seems to be a closer correlation between hog exports and hog prices than between receipts of hogs at central markets and hog prices. The tendency has been for hog exports to be 40 per cent above normal when hog prices are 15 per cent below normal; for hog exports to be 20 per cent above normal when hog prices are 8 per cent below normal, etc. In November of 1919, when hog exports were about 40 per cent above normal, it would have appeared, therefore, that hog prices were about 15 per cent below normal. This is a long-swing tendency, and of course there are occasional exceptions. This part of the problem may be summed up to the effect that big exports start in times of low hog prices, and that these exports after a time stimulate both corn and hog prices, with the result that after a time both corn and hogs become so high in price that exports dry up, and then corn and hog prices weaken, and the whole thing starts over again. There was a continuous series of these cycles previ-

ous to the war, and it is to be expected, now that the war is over, that the phenomena will repeat themselves, altho with some added variations.

One thing we must remember is that very possibly the export trade of the United States will not count so big in the future as it has in the past. The United States has loaned something like $10,000,000,000 to foreign countries, and every year she will have hundreds of millions of dollars in interest coming her way, instead of owing hundreds of millions of dollars to countries across the water, as was the case before the war. And as long as the United States has so much money coming to her in interest charges, we must expect that eventually the United States must import more goods than she exports. This does not necessarily mean the destruction of the hog industry in the corn belt, but it may mean that it will have to shift onto a somewhat different basis. It may be that in the future we must plan on growing enough hogs only to satisfy the needs of the United States, carefully avoiding a glut which will make it essential to export any large quantity. Or it may be that the American farmer is so exceedingly efficient in the business of producing hogs that the United States will always export large quantities of pork products, even tho the balance of trade otherwise is against the United States. If we approach the problem from the standpoint of going after a large trade in hog products with foreign countries, we must put ourselves in position to produce with the utmost economy possible. "Price" talks in the export business, and we shall export large quantities of hog products whenever we are selling hogs decidedly cheaper than the rest of the world.

Just what kind of a whistle do we want, and what price are we willing to pay for it? Here is a problem which we commend to the earnest study of the research department which the National Farm Bureau Federation may some day possess.

CORN BELT LAND VALUES IN RELATION TO COST OF PRODUCING CORN

RENT or interest on the money invested in land is a legitimate item in cost of production—so far as the individual farmer is concerned. But society is likely to reach a time when it will assert the right to object to paying a price for corn which will permit of paying a very high rent, which in turn is used to support very high land values.

Society may say, in effect: Your high land values are just as vicious as watered railway stock, and you have no more right to expect a five per cent return on the inflated value than the railroads have to expect such a return on their watered stock.

Society may be expected to pay a price for corn which is established by competition between farmers in this country and in the Argentine, and by the need of Europe for our pork products. This price doubtless will bear much the same relation to the general price level as before the war. It may be high enough to permit of corn belt land values as they existed in 1920, or even higher values. Or it may be low enough to compel a reduction in corn belt values and farm-hand wages.

In the case of a severe drop in corn prices, it is conceivable but not probable that corn belt farmers will organize sufficiently to compel the return to a price high enough to maintain 1920 land values and farm-hand wages.

It is believed that under conditions of free competition it will be necessary for corn to sell for about 85 cents a bushel, on a basis of December 1st farm valuations in the corn belt in the ordinary crop year, in order to maintain land values as they existed in 1920. This means that prices might go as low as 70 cents a bushel in years of big crops, or as high as $1 in years of small crops. It is also assumed that labor at harvest, without board, will settle down to about $4.25 a day, which was the 1918 level. If labor at harvest, without board, continues at $5 a day, which was the 1919 level, it will be necessary for corn to sell for about 88 cents a bushel, on a December 1st farm basis, in order to maintain the 1920 level of land values and farm-hand wages.

It is recognized that this prediction may be wide of the mark in case farmers are able to organize themselves for selfish purposes as effectively as capital and union labor. For forty years preceding the war, the farmer paid his regular monthly labor a sweat-

ed wage, and, in effect, sold his own labor just as cheaply. During the war, the farmer had a taste of a higher standard of living, and, having had this taste, he will be loath to let farm product prices slip back to a point where he will be reduced to his former state or even lower.

It is suggested as the only effective way out of the difficulty that farmers organize into powerful bargaining organizations, which, on occasion, can practice sabotage as skillfully as capital or union labor. But, in addition, and above all, it is absolutely necessary to become extraordinarily efficient. We must continue to apply our best brains to production problems, perfecting methods which will enable us to produce corn 10 cents a bushel cheaper in Iowa than in Argentina.

PRICE STABILITY AND SOIL FERTILITY

ONE of the strongest arguments for more stable prices is the effect on soil fertility. While the best farmers will try to maintain the fertility of their land, no matter what may be the economic outlook, the bulk of our farming population will not make any serious efforts along this line as long as the price outlook is uncertain. When prices are advancing, the tendency is for millions of acres of farm land to find their way into the hands of speculators and investors, who hold for a rise, and who take no interest whatever in the application of lime and phosphate or the growing of clover. When prices are tending downward, there is a tendency to economize to the limit. Even those farmers who normally use fertilizers are likely to postpone purchases until next year or the year after, in the hope of lower prices. It is only under a system of relatively stable prices that we may expect really effective attention to be given to soil fertility problems by the bulk of our farmers. The quicker we can get onto a stable price level, the more effectively will the fertility of our soil be conserved.

It is common observation that live stock farming maintains the fertility of the soil more effectively than grain farming. In the corn belt, live stock farms ordinarily produce five bushels more corn per acre than grain farms. Two great obstacles to live stock farming are tenancy and price uncertainty. The man of small means who has been farming for himself for only a few years can not afford to take a chance. He does not know whether or not hogs will be at a price next year which will furnish a good market for corn, and he therefore plays safe by breeding only three or four sows, instead of the five or six which he might very well handle. Unquestionably, the farmers in the corn belt would be justified in keeping more live stock if the price of live stock should represent cost of production day by day and month by month. In fact, corn belt farmers, as an average of a five-year period, could probably afford to produce both hogs and cattle at lower relative prices than were customary before the war, if only prices were more nearly stable, if they could feel reasonably sure of getting a price more nearly representing production cost.

The maintenance of the fertility of our soil is a matter of national concern. In the long run, it is of more vital interest to the people of the cities than to the farmer. Men engaged in industrial enterprises should do what they can to favor such adjustment

of prices as will make it to the advantage of the farmer to keep his land in good heart, because that will make for larger production and more economical production.

MEASURING TOTAL CROP PRODUCTION

THIS chapter does not follow the same line of thought as the other chapters. It has an indirect bearing, however, and we believe the suggested method of measuring total crop production to be of some value.

Small crops ordinarily bring the farming class more money than large crops. Nevertheless, in the long run big crops mean prosperity to the country as a whole. To judge just when crops as a whole are large and when they are small, a method has been devised, which may be illustrated as follows:

In 1918, the United States produced 2,582,814,000 bushels of corn, 917,100,000 bushels of wheat, 89,833,000 tons of hay, 11,700,000 bales of cotton, etc. Now, to ascertain total crop production, it is obviously impossible to add together bushels, tons, bales, etc. We can add together the value of the crops, but the price level shifts from year to year, and this method is not satisfactory.

Now, the 1907-1916 ten-year average price of corn was 61 cents, of wheat 96.2 cents, of hay $11.49 a ton, of cotton $59 a bale, etc. A ten-year average illustrates the relative economic emphasis. These prices are therefore used as constant factors, applicable to any crop year.

The 1918 corn crop of 2,582,814,000 bushels, converted into economic crop units by multiplying by 61, equals 157,500,000,000. The 1918 wheat crop of 917,100,000 bushels, multiplied by 96.2, equals 63,600,000,000. The same thing done with the thirteen leading crops gives 559,900,000,000 crop units produced by the United States in 1918, or 5,270 crop units per capita.

The per capita production of crop units since 1880 has been as follows:

1880.....5,360	1890.....4,720	1900.....5,820	1910.....5,320
1881.....4,280	1891.....5,820	1901.....4,470	1911.....4,850
1882.....5,330	1892.....4,840	1902.....5,480	1912.....5,690
1883.....5,120	1893.....4,710	1903.....4,930	1913.....4,950
1884.....5,560	1894.....4,030	1904.....5,220	1914.....5,410
1885.....5,250	1895.....4,980	1905.....5,200	1915.....5,770
1886.....4,970	1896.....5,170	1906.....5,560	1916.....4,940
1887.....4,690	1897.....5,070	1907.....4,940	1917.....5,530
1888.....5,240	1898.....5,360	1908.....5,220	1918.....5,270
1889.....5,910	1899.....5,760	1909.....5,100	1919.....5,400
Decade Averages, 5,171	5,046	5,194	5,313

Note how constant has been the productive power of the United States in economic crop units per capita, decade by decade, since 1880. Note that since 1910 crop production has more than kept pace with the increase in population.

In the '80's we exported the equivalent of about 650 economic crop units per capita (in this we convert pork exports into corn), which left, roughly, 4,500 economic crop units per capita for home consumption. In the fiscal year ending June 30, 1919, we exported about 750 economic crop units per capita, which left, roughly, 4,500 economic crop units of the 1918 crop for home consumption. During the decade ending 1919 there has been an average of about 4,800 economic crop units per capita left for home consumption. It was probably necessary to retain more economic crop units per capita at home during the last decade than during the '80's, because of the smaller live stock production per capita.

From the standpoint of production per farm, there has been a tremendous increase every decade. As an average of 1880-1889, the production per farm was 66,420 units, as compared with 67,990 units for the 1890-1899 decade, 71,600 units for the 1900-1909 decade, and 81,000 units for the 1910-1919 decade. In response to the higher price level, the productivity of the average farm has constantly been increasing. If both the general price level and the price of farm crops had been the same in the 1910-1919 decade as in the 1900-1909 decade, the probabilities are that the average production per farm would have been about 73,000 economic crop units instead of 81,000. If by the 1940-1949 decade we have a population of 150,000,000, and if Dun's index number at that time is $170, it will be necessary to pay at Chicago an average of about $1.80 for wheat, $1.15 for corn, and 65 cents for oats, in order to call forth as much production per capita as was called forth by the prices paid during the past forty years. When Dun's index number is as low as $170 (at this writing, in early 1920, it is $244), $1.80 for wheat, etc., will be very high relatively. Rather than pay such a high relative price, the consumers of the United States will probably turn to Argentina and other countries where farmers produce food cheaply by living on a lower standard. The position of the United States, rising out of the world war, whereby she is the creditor nation of the world, will favor food importations.

It is a commonplace among business men that good crops mean good business. The effect, however, is not as close as they imagine. The short crop of 1901 did not affect the business world till 1903 and 1904. The short crops of 1892, 1893 and 1894 did

not have full effect till 1895 and 1896. A single crop year which is only slightly below average may have no effect whatever on business. But when three crop years average below normal, there is almost certain to be some effect on business. From 1903 to 1919, the correlation between crops and the price of securities on the stock exchange was about .53. Professor H. L. Moore, in his book on "Economic Cycles," finds between crop yields per acre and pig iron production a correlation coefficient of .72, pig iron production lagging about a year behind crops.

Big crops do mean good business, altho they mean prosperity to the farming class chiefly in an indirect way. A small crop generally brings farmers more money than a large crop, but small crops over a period of two or three years cause business depression and this reacts on farmers.

The problem of both business men and farmers is to devise some means of giving farmers as a class a financial interest in producing big crops rather than small crops.

Part II

MATHEMATICAL STUDY OF SUPPLY AND DEMAND IN THE HOG MARKET

MATHEMATICAL formulation of price-making factors is necessary in order to know when extraordinary or strategic considerations are influencing the market. The mathematical methods are highly technical, and in order to explain most clearly we shall follow a specific problem thru from beginning to end.

The problem is to determine the price of hogs from hog receipts (supply) and from business conditions (demand). To represent business conditions, we are using bank clearings outside of New York City. The actual figures for heavy hog prices at Chicago are given in the Appendix. Hog receipts at Chicago and bank clearings outside of New York City are given on pages 82 and 83. The problem is to evolve from these figures the law of hog prices.

The first step is to determine the secular or long-time trend of these figures. Find, for example, the secular trend of such a series as:

1901	2	1904	5	1907	4
1902	3	1905	2	1908	6
1903	2	1906	6	1909	6

From looking at these figures, we know that the secular trend slopes upward, starting with about 2 in 1901, reaching 3 or 4 by 1905, and 5 or 6 by 1909. To express the matter with mathematical accuracy, the method as applied to this series is as follows: First add all the figures together. Answer in this case, 36. Then divide by the number of figures—in this case 9. Thirty-six divided by 9 gives 4, which is the value of the secular trend for 1905, which is the central year.

The year 1904 is the —1 year, 1903 the —2 year, 1902 the —3 year, 1901 the —4 year, and in like manner 1906 is the +1 year, 1907 the +2 year, 1908 the +3 year and 1909 the +4 year. Multiply the minus years by their respective values: —1 by 5, —2 by 2, —3 by 3 and —4 by 2, and also the plus years, +1 by 6, +2 by 4, +3 by 6 and +4 by 6. The totals are —26 and +56, or a net of +30. Now the sum of the squares of —1, —2, —3, —4, +1, +2, +3 and +4 is 60. Sixty divided into 30 gives .5, which is the rate of movement of the secular trend each year, or if, as we found, 4 is the secular trend value for 1905, then 3.5 is the value for 1904, 3.0 for 1903, 2.5 for 1902, and 2.0 for 1901, and in like manner 4.5 for 1906, 5.0 for 1907, 5.5 for 1908 and 6 for

BANK CLEARINGS OF THE UNITED STATES OUTSIDE NEW YORK CITY.

(7 ciphers omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
Jan.	390	376	411	510	542	463	516	591	597	623
Feb.	323	330	353	415	449	388	437	498	497	566
Mar.	358	359	419	463	510	430	513	600	585	604
Apr.	364	353	405	436	499	430	507	570	543	614
May	354	339	418	444	507	421	491	537	557	604
June	368	350	408	443	479	419	504	548	562	567
July	379	348	403	440	506	448	515	543	555	602
Aug.	326	336	392	432	467	404	482	508	528	572
Sep.	338	350	403	420	454	434	506	516	542	564
Oct.	394	405	460	521	561	491	582	592	606	701
Nov.	356	418	461	505	418	480	572	582	603	655
Dec.	380	430	476	504	406	512	594	591	609	655
Totals	4330	4394	5009	5533	5798	5320	6219	6676	6784	7327

BANK CLEARINGS OF THE UNITED STATES OUTSIDE NEW YORK CITY—Continued.

(7 ciphers omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
Jan.	693	683	620	781	1051	1182	1456			
Feb.	584	563	543	719	884	1000	1160			
Mar.	628	640	628	820	1056	1224	1359			
Apr.	626	635	620	775	1036	1239	1326			
May	618	593	599	816	1073	1271	1428			
June	598	610	610	810	1064	1246	1449			
July	621	631	623	799	1048	1324	1562			
Aug.	563	535	573	805	1041	1320	1516			
Sep.	599	540	614	850	1015	1271	1598			
Oct.	703	613	741	1002	1254	1516	1809			
Nov.	631	568	756	1016	1239	1375	1672			
Dec.	668	611	797	1036	1192	1415	1576			
Totals	7532	7222	7724	10229	12953	15383	17909			

RECEIPTS OF HOGS AT CHICAGO IN MILLIONS OF POUNDS.

(000,000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	170	179	198	195	180	239	166	119	115	187
Feb. . . .	144	174	152	158	151	184	141	122	150	172
Mar. . . .	112	126	143	135	132	153	152	86	168	143
Apr. . . .	117	116	121	111	136	108	102	74	125	129
May . . .	130	124	143	127	152	132	123	110	154	146
June . . .	156	128	139	141	139	136	113	120	132	128
July . . .	128	79	115	135	147	118	101	96	118	125
Aug. . . .	133	120	115	138	128	105	92	112	116	103
Sep. . . .	120	87	115	113	121	83	82	92	99	95
Oct. . . .	109	110	135	121	104	131	91	107	124	118
Nov. . . .	145	164	162	127	99	174	127	127	144	127
Dec. . . .	194	184	178	148	172	184	138	136	145	147
Totals	1,658	1,591	1,716	1,649	1,661	1,747	1,428	1,301	1,590	1,620

RECEIPTS OF HOGS AT CHICAGO IN MILLIONS OF POUNDS.

Continued.

(000,000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	182	157	200	239	224	157	256			
Feb. . . .	149	145	166	193	162	212	212			
Mar. . . .	141	127	149	157	131	232	155			
Apr. . . .	129	103	109	119	116	190	147			
May . . .	133	110	132	135	127	157	163			
June . . .	149	139	130	128	114	121	182			
July . . .	126	112	122	122	110	153	146			
Aug. . . .	132	102	109	136	79	105	96			
Sep. . . .	131	90	97	106	58	98	110			
Oct. . . .	134	119	85	164	92	159	135			
Nov. . . .	133	95	152	207	146	202	182			
Dec. . . .	189	226	223	218	168	223	234			
Totals	1,728	1,525	1,674	1,924	1,527	2,009	2,018			

1909. The secular trend is a straight line, and the actual goes above and below the secular trend in more or less wave-like fashion. In Chart I, the straight line is the secular trend of heavy hog prices at Chicago for 1903-1916, and the irregular line fluctuating above and below is the actual price of heavy hogs.

The next problem is to eliminate the normal seasonal variation. For example, hog prices have a normal tendency to go down in the fall of the year, whereas bank clearings have an equally normal tendency to go up. Obviously, seasonal trends must be eliminated if such series as hog prices and bank clearings are to be compared.

As an average of the fourteen years from 1903 to 1916, inclusive, heavy hog prices at Chicago averaged in January, $6.54; February, $6.83; March, $7.22; April, $7.30; May, $7.10; June, $7.10; July, $7.18; August, $7.14; September, $7.29; October $7.08; November, $6.65; December, $6.55; average for the entire year, $7. On this basis, January is 93 per cent of the yearly average; February, 98 per cent; March, 103 per cent; April, 104 per cent; May, 101 per cent; June, 101 per cent; July, 103 per cent; August, 102 per cent; September, 104 per cent; October, 101 per cent; November, 95 per cent, and December, 94 per cent. The December average for 1902-1915 is $6.30, or 90 per cent. Obviously, the seasonal variation as just stated in percentages is affected to some extent by the secular trend, for the Decembers of 1902-1915 average 90 per cent, and those of 1903-1916 average 94 per cent. Taking the secular trend out of our seasonal, or adding 2 points to the early months of the year and subtracting 2 points from the last months of the year, we get approximately: January, 95; February, 99; March, 104; April, 105; May, 102; June, 101; July, 103; August, 102; September, 103; October, 100; November, 94, and December, 92.*

Hog receipts at Chicago, in the same manner, have a modified seasonal factor of January, 132 per cent; February, 117 per cent; March, 102 per cent; April, 85 per cent; May, 99 per cent; June, 99 per cent; July, 87 per cent; August, 87 per cent; September, 74 per cent; October, 86 per cent; November, 103 per cent; December, 129 per cent.

For bank clearings outside of New York City, the modified seasonal factors are: January, 109; February, 93; March, 104;

*The link relative method of finding the normal seasonal variation, as used by Warren M. Persons, in the January, 1919, Review of Economic Statistics, is far more difficult than the method here used, and for our purposes is not worth while.

April, 100; May, 99; June, 97; July, 98; August, 90; September, 93; October, 108; November, 103, and December, 106.

After securing normal seasonal variation, the next step is to modify secular trend for seasonal variation. Secular trend of hog prices, as modified seasonally, is portrayed in Chart II. The secular trend price of hogs in January, 1903, is $5.19, which sum, multiplied by the seasonal factor 96, gives $4.98 as the secular price of hogs modified seasonally for January, 1903. The actual price was $6.60, or $1.62 above the secular modified seasonally, or 31 per cent greater than the secular price of $5.19. In this way the percentage of departure for each month from 1903 thru 1916 may be figured. This has been done for hog prices, hog receipts and bank clearings outside of New York City.*

Now, as it happens, hog receipts are a much more violently fluctuating series than bank clearings outside of New York City. To put the series on an even footing, resort is made to what is known as the standard deviation. To secure the standard deviation of hog price percentage departures, add up the squares of these departures. The total for the 168 months from 1903 thru 1916 is 31,894, or, dividing by 168, we get 190. The square root of 190 is 13.8, which is the standard deviation of hog prices. Standard deviation means that the probabilities are that on the average not more than one out of three of the series of figures under consideration will exceed the standard deviation. Standard deviation for hog receipts is 15, and for bank clearings 8.7. This indicates that hog receipts depart from the secular trend as modified seasonally with nearly twice as great violence as do bank clearings.

To put all three series on the same footing, we divide the percentage departures by the standard deviation, 13.8 in the case of hog prices, 15 in the case of hog receipts, and 8.7 in the case of bank clearings. In January of 1903, for example, hog prices were greater than the secular modified seasonally by 2.3 times the standard deviation; hog receipts were less by .3 of the standard

*Warren M. Persons, in a footnote on page 35 of the January, 1919, Review of Economic Statistics, expresses the method of ascertaining percentage departure from the secular trend in mathematical symbols as follows: "Let the original series beginning with January be X_1, X_2, X_3, ... X_n, the ordinates of secular trend be O_1, O_2, O_3, ... O_n, and the adjusted indices of seasonal variation for twelve months be S_1, S_2, S_3, ... S_{12} per cent, respectively. Then the items for secular trend and seasonal variation are:

$$\frac{X_1 - S_1 O_1}{O_1}, \quad \frac{X_2 - S_2 O_2}{O_2}, \quad \frac{X_3 - S_3 O_3}{O_3}, \quad \ldots \quad \frac{X_{13} - S_1 O_{13}}{O_{13}} \quad \text{etc.}"$$

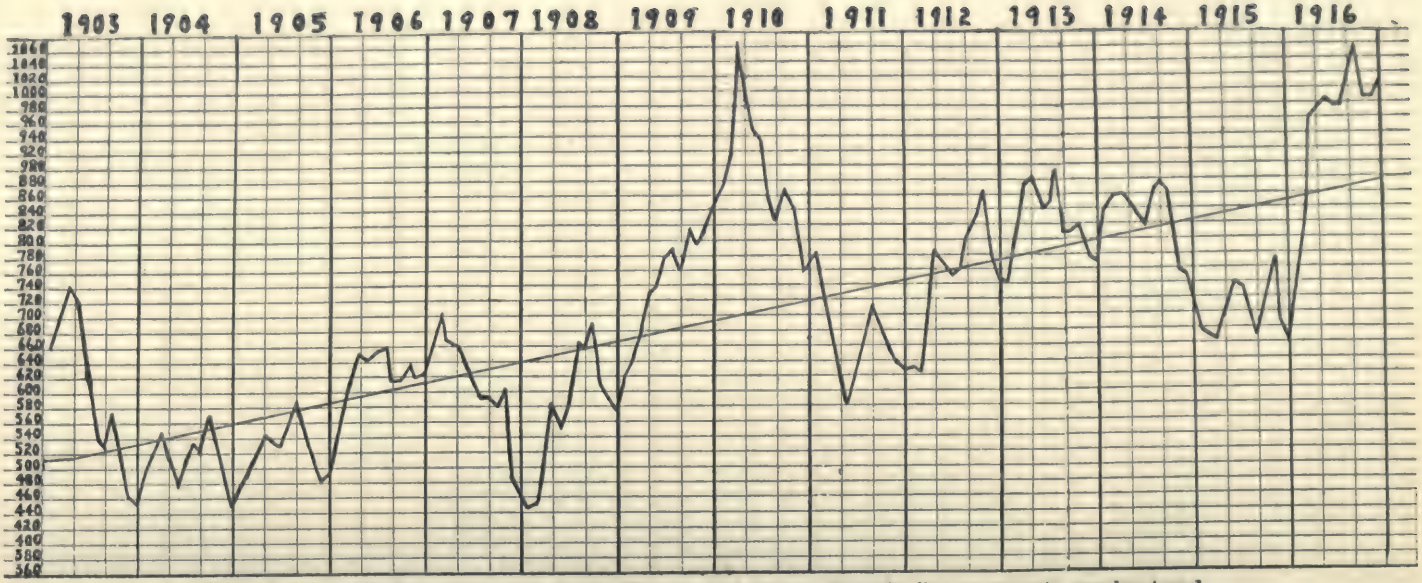


Chart I—Irregular line represents actual Chicago hog prices. Straight line represents secular trend.

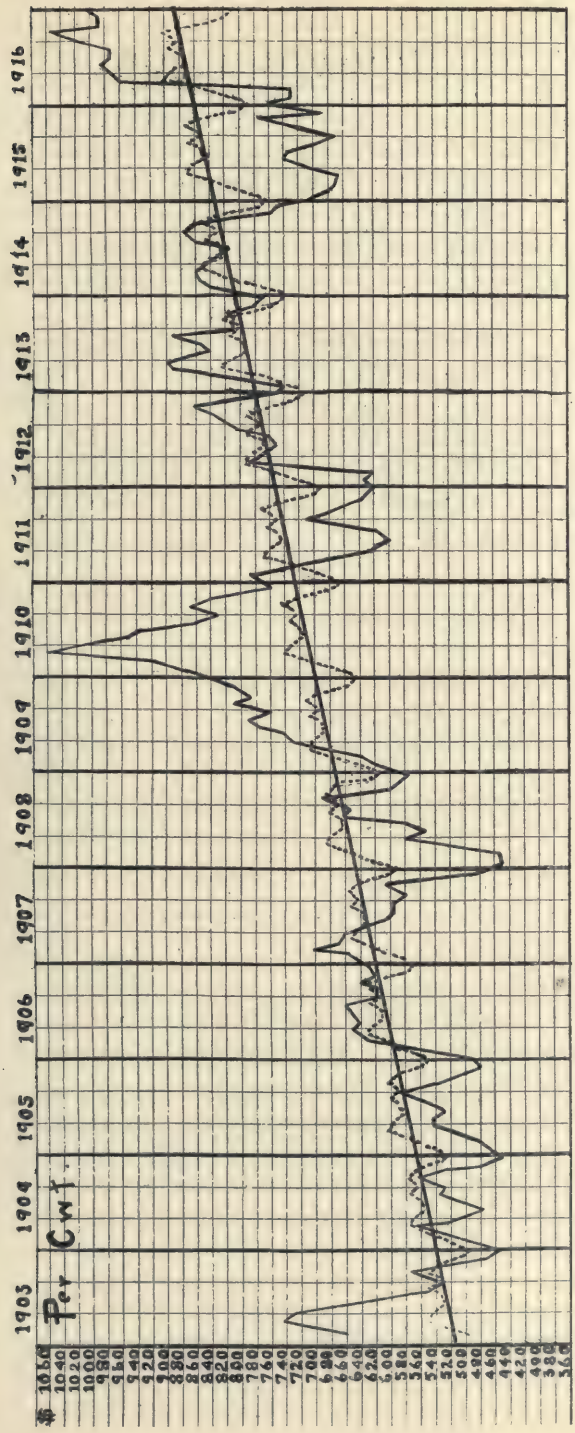


Chart II is identical with Chart I except that the dotted line has been added, which represents the secular trend as corrected seasonally.

deviation, and bank clearings were over by .9 of the standard deviation. The cycles of the hog prices, hog receipts and bank clearings, as secured in this way by reducing for standard deviation, are comparable. The results are charted in Charts III, IV, V.

It may be seen from examining these charts that hog prices seem to be related directly to bank clearings and inversely to hog receipts. The problem is: Blend hog receipts and bank clearings together in such a way as to secure hog prices. The mathematical method of approach is by correlation coefficients and lines of regression.

First, a simple illustration of the method of securing correlation coefficients:

Take the two series, A and B, which deviate from their respective means by the amounts stated in Columns 2 and 3. In Column 1 is the year, which has nothing to do with the mathematics of the case. Column 4 is A squared, Column 5 is B squared, and Column 6 is A multiplied by B.

1	2	3	4	5	6
	A	B	A squared	B squared	A times B
1901	−3	−5	9	25	+ 15
1902	−1	+1	1	1	−1
1903	+2	+3	4	9	+6
1904	+2	+1	4	1	+2
Sum			18	36	+22

The standard deviation of A is the square root of the sum of the A squares, or 18, divided by 4. The square root of 18 divided by 4 is 2.1. Standard deviation of B, in like manner, is 3. The sum of AB divided by 4, or +22 divided by 4, equals +5.5. The correlation coefficient is +5.5 divided by the standard deviation of A multiplied by the standard deviation of B, or 5.5 divided by 6.3, which gives +.87. A correlation coefficient of .87 is very high, perfect correlation being 1. Correlation over .5 is considered fairly good, especially if there is a long list (fifty or more) of figures in each series.

The formula for determining A in terms of B is:

$$A \text{ equals } r \frac{\sigma_a}{\sigma_b} B$$

In this formula, r is the correlation coefficient and σa is the standard deviation of A, and σb is the standard deviation of B. Substituting for the specific problem, we get:

$$A \text{ equals } .87 \frac{2.1}{3.0} B \text{ or}$$
$$A \text{ equals } .609\ B$$

When B is —5 we would expect A to be 3.05; when B is +1 we would expect A to be +.609; when B is + 3, we would expect A to be 1.827.

Suppose now, in addition, that there are three series: A, B and C, and that the object is to determine A in terms of B and C. The three series stand:

	A	B	C
1901	—3	—5	+2
1902	—1	+1	+3
1903	+2	+3	—3
1904	+2	+1	—2

We already know that the standard deviation of A is 2.1, and of B is 3.0, and that the correlation coefficient between A and B is +.87. Using the customary method, we find that the standard deviation of C is 2.55 and that the correlation coefficient of A and C is —.89, and of B and C —.59. To find A in terms of B and C, we use the following formula:

$$A \text{ equals } \frac{r_{ab} - r_{ac}\, r_{bc}}{1 - r^2_{bc}} \frac{\sigma_a}{\sigma_b} B$$
$$+ \frac{r_{ac} - r_{ab}\, r_{bc}}{1 - r^2_{bc}} \frac{\sigma_a}{\sigma_c} C$$

In this formula r_{ab} means correlation coefficient between A and B, etc.; σa means standard deviation of A.

Substituting, we get:

$$A \text{ equals } \frac{+.87 - .53}{.65} \frac{2.1}{3.0} B \frac{-.89 + .51}{.65} \frac{2.1}{2.55} C$$

or, A equals .37 B — .49 C

Applying this formula, we find that when C is +2 and B is —5, as in the year 1901, we would expect A to be —2.83, and when C

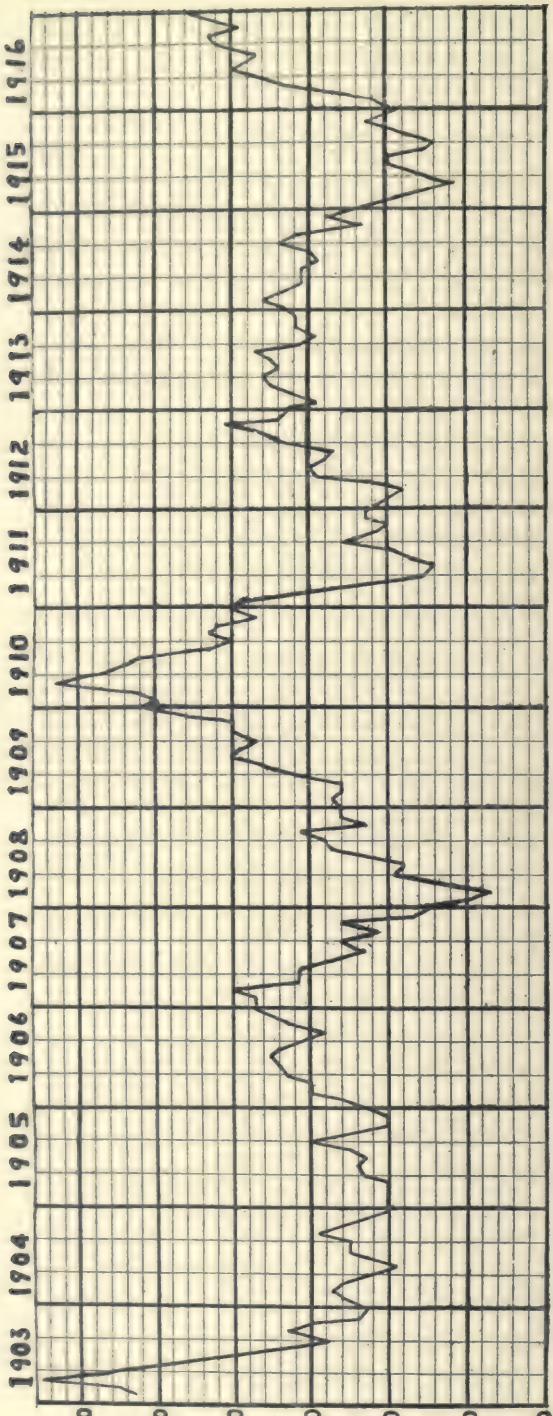


Chart III. Cycles of hog prices secured by dividing the percentage deviation of actual prices from the secular corrected seasonally, by the standard deviation.

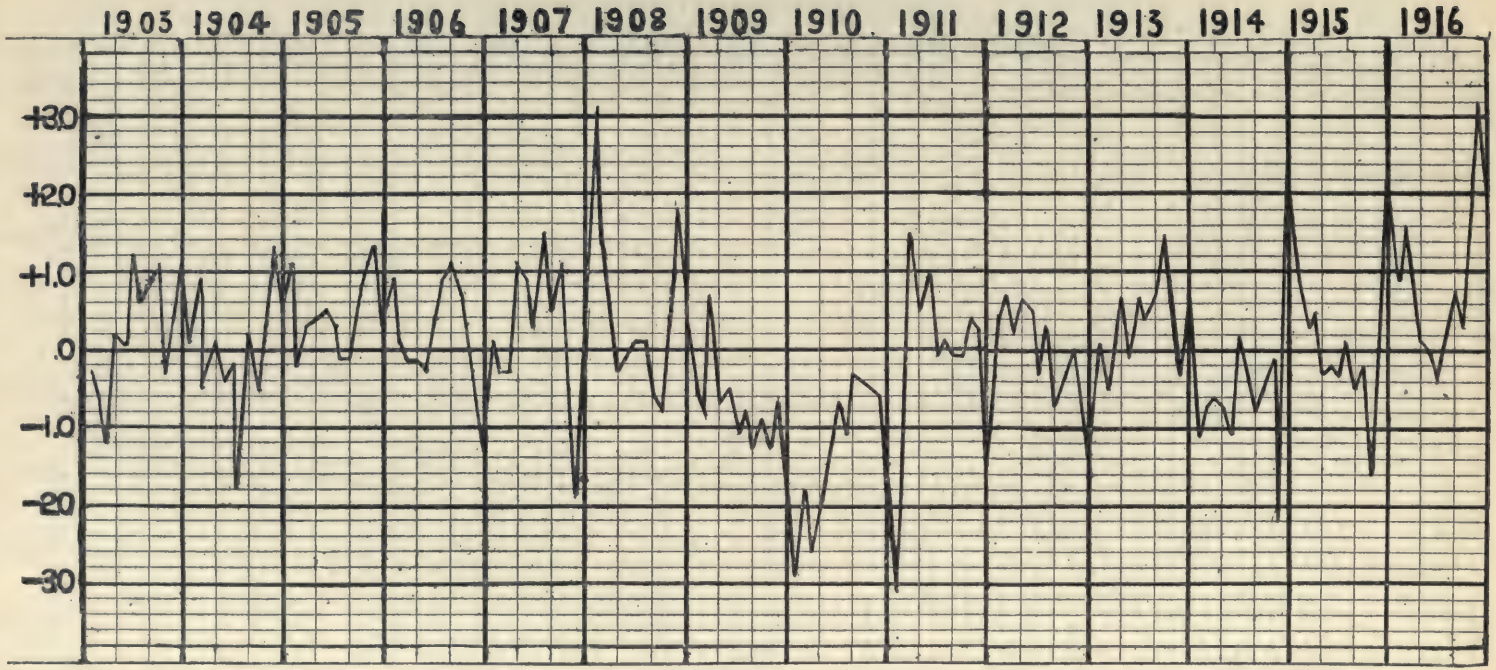


Chart IV—Cycles of hog receipts, secured by dividing the percentage deviation from secular trend corrected seasonally, by the standard deviation.

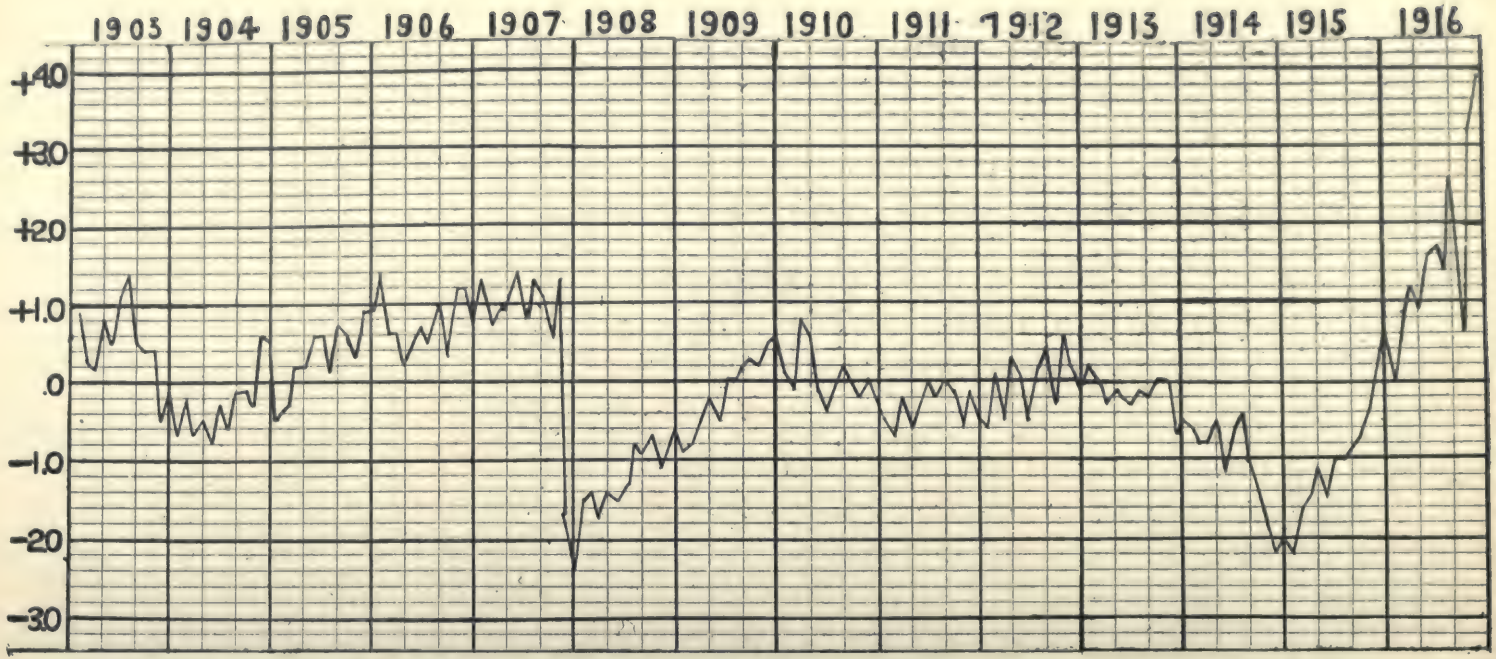


Chart V—Cycles of bank clearings outside of New York City, secured by dividing the percentage deviation from the secular trend corrected seasonally, by the standard deviation.

is +3 and B is +1, as in 1902, we would expect A to be —1.1. In like manner, in 1903, we would expect A to be +2.60 and in 1904 +1.35.

The results expressed in a table are:

	Actual A	A as predicted by formula from B and C
1901.....	—3	—2.83
1902.....	—1	—1.10
1903.....	+2	+2.60
1904.....	+2	+1.35

The practical problem is to express hog prices in terms of hog receipts and bank clearings. Practically the same method is used with the 168 months from 1903 thru 1916, as with the four years which have just been used for illustration.

The standard deviations are 10.1 for hog receipts, 10.5 for hog prices and 9.8 for bank clearings. The correlation coefficients are +.39 between hog prices and bank clearings, +.26 between hog receipts and bank clearings, and —.4 between hog receipts and hog prices.

Using the formula:

$$A \text{ equals } r \frac{\sigma_a}{\sigma_b} B$$

and allowing A to represent hog prices and B to represent bank clearings, we get:

$$\text{Hog prices equal } .39 \frac{10.5}{9.8} \text{ bank clearings, or}$$

$$\text{Hog prices equal } .417 \text{ bank clearings}$$

This formula is converted back into percentage departures from secular trend modified seasonally, and finally into hog prices as affected by bank clearings. The demand, or bank clearing, price, of hogs as compared with the actual is shown in Chart VI.

In like manner we get:

$$\text{Hog prices equal } -.4 \frac{10.5}{10.1} \text{ hog receipts, or}$$

$$\text{Hog prices equal } -.426 \text{ hog receipts}$$

This formula is converted back into percentage departures from the secular trend modified seasonally, and finally into hog prices as affected by hog receipts. The supply price of hogs as compared with the actual is shown in Chart VII.

Using the longer formula on page 89, we get: Hog prices equal .56 bank clearings minus .56 hog receipts. Or converted

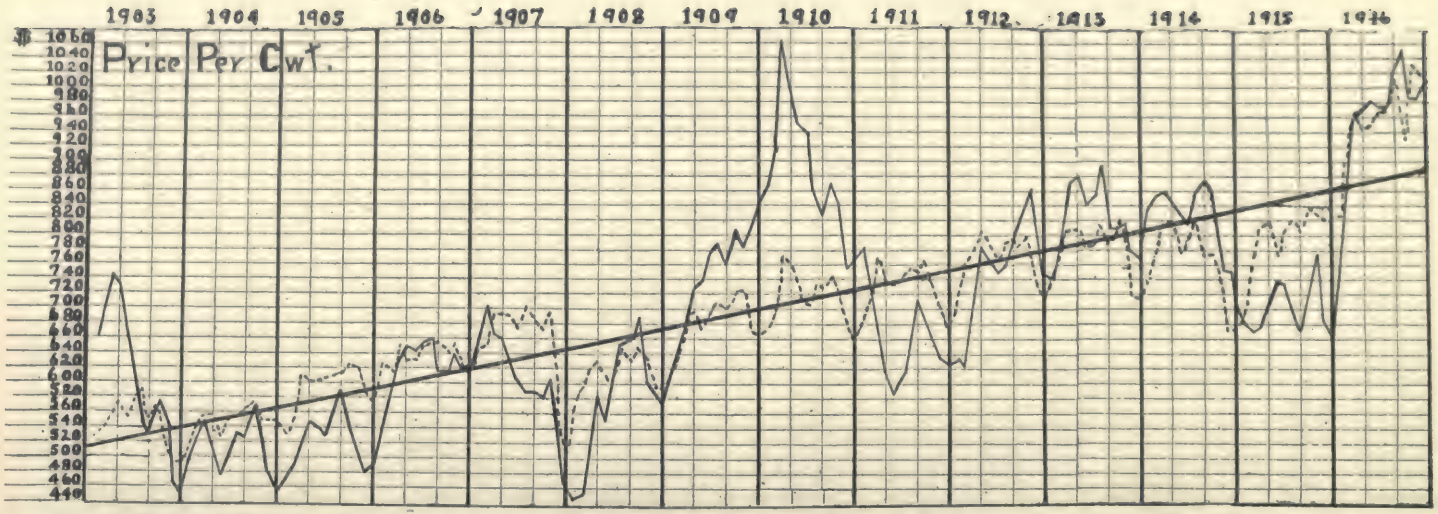


Chart VI—Dotted line is the demand price of hogs, based on bank clearings. Irregular solid line is actual price, and straight line is secular trend.

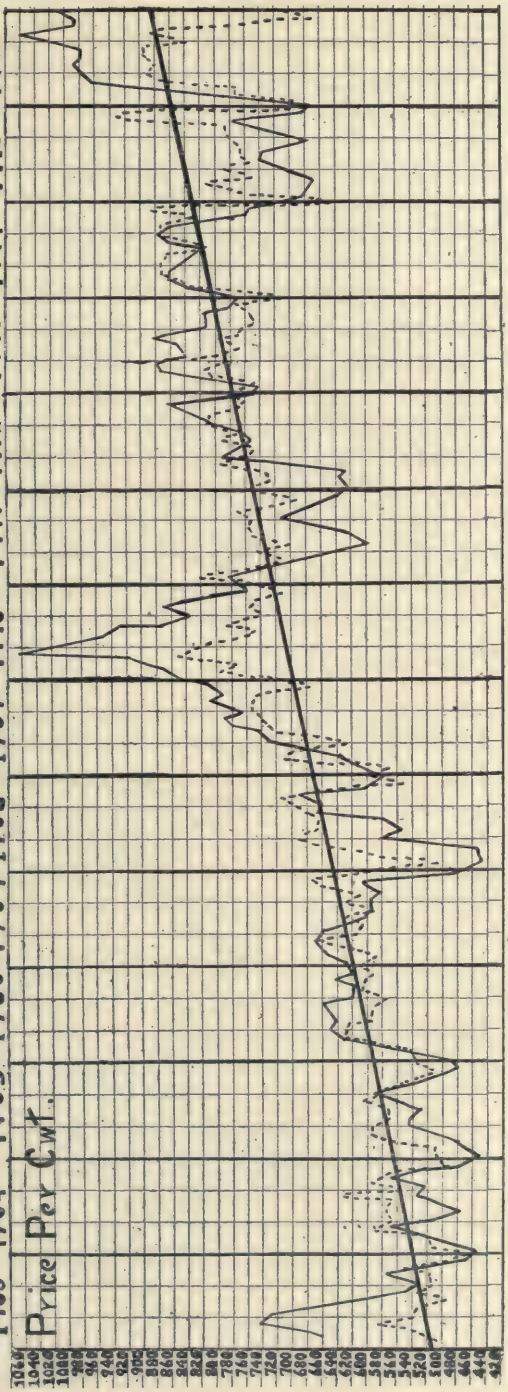


Chart VII—Dotted line is supply price of hogs, based on receipts at Chicago. Irregular solid line is actual price, and straight line is secular trend.

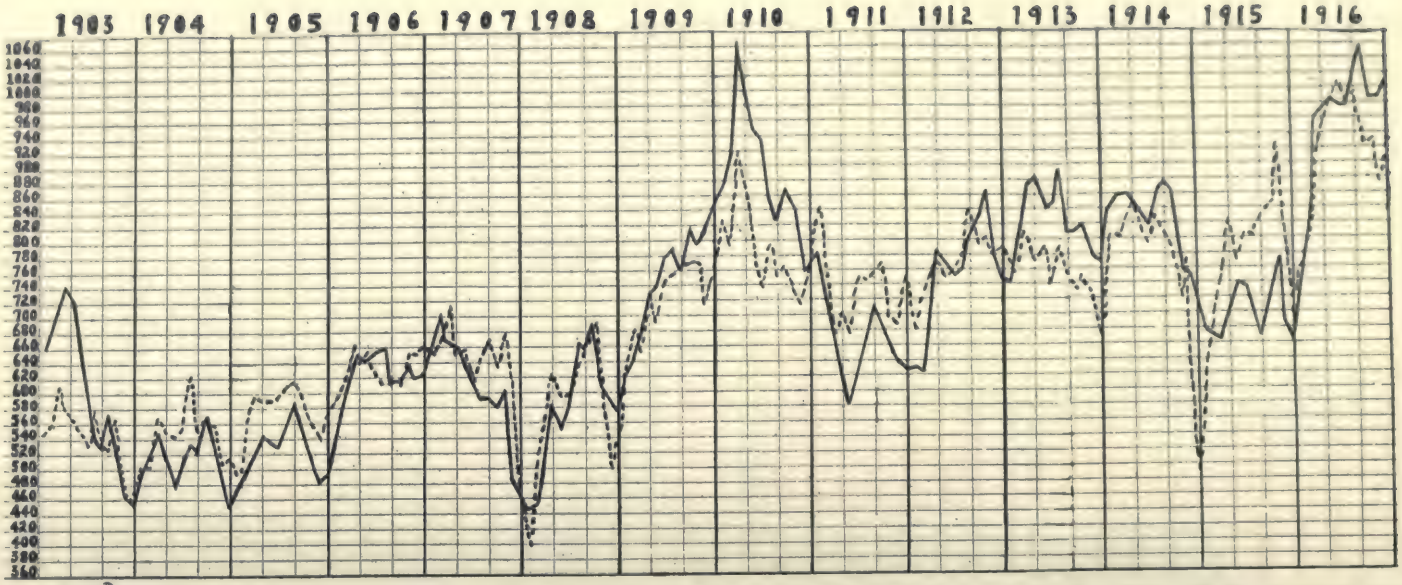


Chart VIII—Dotted line is supply-and-demand price of hogs, based on bank clearings and hog receipts. Irregular solid line is actual price.

into percentage departures from the secular trend corrected seasonally: .90 of bank clearings in percentage departures minus .51 of hog receipts in percentage departures equals the percentage which hog prices depart from their secular corrected seasonally. For instance, in January, 1903, bank clearings were 8 per cent above the secular corrected seasonally, and hog receipts were 5 per cent below. Eight times .90 plus 5 times .51 gives 9.7 as the percentage which we would expect hog prices to be over their secular corrected seasonally. The secular for January, 1903, was $5.19; 9.7 per cent of $5.19 gives 50 cents. The secular corrected seasonally for January, 1903, is $4.98. Add 50 cents to $4.98 and we get $5.48 as the price which we would have expected heavy hogs to sell at Chicago in January, 1903, on the basis of good business and small hog receipts. Actually, hogs sold for $6.60, or $1.12 over the price predicted by formula.

This is done for all the months from 1903 to 1916, and the supply-and-demand price of hogs, as derived from hog receipts at Chicago and bank clearings outside of New York is charted in Chart VIII, in comparison with the actual prices.

PREDICTING THE FUTURE OF HOG PRICES

WE ASSUME that at the present time, and probably for some time to come, we are on a basis of 90 per cent above 1913 for hog prices, and 100 per cent over 1913 in bank clearings. This conclusion is based to some extent on the reasoning presented in the June monthly supplement of the Harvard Review of Economic Statistics for the year 1919.

On this basis, the secular trend of heavy hog prices at Chicago, modified seasonally, should be roughly as follows for the several years beginning with 1919: January, $14.35; February, $15.07; March, $15.82; April, $15.67; May, $15.22; June, $15.22; July, $15.52; August, $15.22; September, $15.52; October, $15.07; November, $14.16, and December, $13.86.* This is on the assumption that hog prices and prices generally will have for their normal mean a level 90 per cent above the 1913 level. It is expected that in a rough way hog prices will depart from this level according to the size of hog receipts and the condition of general business as expressed by bank clearings. (During 1920, and possibly 1921, heavy exports will doubtless have influence.)

The secular trend of bank clearings outside New York, modified seasonally, for the year beginning with 1919, is taken as: January, $13,952,000,000; February, $11,648,000,000; March, $13,056,000,000; April, $12,800,000,000; May, $12,416,000,000; June, $12,416,000,000; July, $12,544,000,000; August, $11,648,000,000; September, $12,032,000; October, $13,824,000,000; November, $13,440,000,000, and December, $13,824,000,000.

The secular trend of hog receipts at Chicago in millions of pounds, modified seasonally, for the period beginning with 1919, is taken as: January, 184; February, 163; March, 143; April, 118; May, 139; June, 139; July, 121; August, 121; September, 103; October, 120; November, 144, and December, 180.

Based on the formula as secured in the preceding chapter (hog price equals .56 bank clearings minus .56 hog receipts), we would expect the following scale of hog prices in January, when receipts

---

*These figures are based on seasonal correction factors as follows: January, 96; February, 100; March, 105; April, 104; May, 101; June, 101; July, 103; August, 101; September, 103; October, 100; November, 94; December, 92. These factors are practically the same as those used on page 84.

follow the secular trend (184,000,000 pounds at Chicago), but bank clearings are variable:

Bank Clearings in January.	Heavy Hog Prices.
$11,000,000,000	$11.35
11,500,000,000	11.85
16,500,000,000	16.85

In like manner, tables may be made up for each month of the year, the idea being that for each $500,000,000 the bank clearings outside of New York are above or below the secular trend seasonally modified, fifty cents is added to or subtracted from the secular trend hog price seasonally modified. Thus for April the tables would be:

Bank Clearings in April.	Heavy Hog Prices.
$ 9,800,000,000	$12.67
12,800,000,000	15.67
15,800,000,000	18.67

Taking the tables as worked out for bank clearings and hog prices, we next modify for hog receipts. An excess of 33,000,000 pounds of hog receipts at Chicago in a month means on the average $1.80 lower prices, and vice versa. Thus, in January, with bank clearings at $13,952,000,000, we would expect the following prices with various sizes of hog receipts:

Hog Receipts (in Pounds).	Heavy Hog Prices.
162,000,000	$15.55
184,000,000	14.35
195,000,000	13.75
206,000,000	13.15
228,000,000	11.95

The tables herewith give this problem worked out in detail for the various months. It is realized that at this writing, in early 1920, financial matters are still so deranged by the great war that our secular trend for bank clearings may be wide of the mark. This is the best prediction we can offer at this writing, and we are offering it fully aware of its weakness, but fully believing that predictions of this sort will stimulate more thoro research. It is believed that better measures of demand may eventually be found than bank clearings outside of New York City, and that better measures of supply may be found than receipts at Chicago. Also there is a possibility that the varying size of exports of hog products should be taken into account.

PRICE OF HEAVY HOGS PER HUNDREDWEIGHT, AS PREDICTED FROM HOG RECEIPTS AND BANK CLEARINGS OUTSIDE OF NEW YORK CITY.

JANUARY.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	162	173	184	195	206	217	228	239
$13,000,000,000	$14.55	$13.95	$13.35	$12.75	$12.15	$11.55	$10.95	$10.35
13,500,000,000	15.05	14.45	13.85	13.25	12.65	12.05	11.45	10.85
14,000,000,000	15.55	14.95	14.35	13.75	13.15	12.55	11.95	11.35
14,500,000,000	16.05	15.45	14.85	14.25	13.65	13.05	12.45	11.85
15,000,000,000	16.55	15.95	15.35	14.75	14.15	13.55	12.95	12.35
15,500,000,000	17.05	16.45	15.85	15.25	14.65	14.05	13.45	12.85
16,000,000,000	17.55	16.95	16.35	15.75	15.15	14.55	13.95	13.35
16,500,000,000	18.05	17.45	16.85	16.25	15.65	15.05	14.45	13.85

FEBRUARY.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	141	152	163	174	185	196	207	218
$10,600,000,000	$15.27	$13.67	$14.07	$13.47	$11.87	$12.27	$11.67	$11.07
11,100,000,000	15.77	14.17	14.57	13.97	12.37	12.77	12.17	11.57
11,600,000,000	16.27	14.67	15.07	14.47	12.87	13.27	12.67	12.07
12,100,000,000	16.77	15.17	15.57	14.97	13.37	13.77	13.17	12.57
12,600,000,000	17.27	15.67	16.07	15.47	13.87	14.27	13.67	13.07
13,100,000,000	17.77	16.17	15.57	15.97	14.37	14.77	14.17	13.57
13,600,000,000	18.27	16.67	17.07	16.47	14.87	15.27	14.67	14.07
14,100,000,000	18.77	17.17	17.57	16.97	15.37	15.77	15.17	14.57

MARCH.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	121	132	143	154	165	176	187	198
$12,100,000,000	$16.02	$15.42	$14.82	$14.22	$13.62	$13.02	$12.42	$11.82
12,600,000,000	16.52	15.92	14.32	14.72	14.12	13.52	12.92	12.32
13,100,000,000	17.02	16.42	15.82	15.22	14.62	14.02	13.42	12.82
13,600,000,000	17.52	16.92	16.32	15.72	15.12	14.52	13.92	13.32
14,100,000,000	18.02	17.42	16.82	16.22	15.62	15.02	14.42	13.82
14,600,000,000	18.52	17.92	17.32	16.72	16.12	15.52	14.92	14.32
15,100,000,000	19.02	18.42	17.72	17.22	16.62	16.02	15.42	14.82
15,600,000,000	19.52	18.92	18.32	17.72	17.12	16.52	15.92	15.32

APRIL.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	96	107	118	129	140	151	162	173
$11,800,000,000	$15.87	$15.27	$14.67	$14.07	$13.47	$12.87	$12.27	$11.67
12,300,000,000	16.37	15.77	15.17	14.57	13.97	13.37	12.77	12.17
12,800,000,000	16.87	16.27	15.67	15.07	14.47	13.87	13.27	12.67
13,300,000,000	17.37	16.77	16.17	15.57	14.97	14.37	13.77	13.17
13,800,000,000	17.87	17.27	16.67	16.07	15.47	14.87	14.27	13.67
14,300,000,000	18.37	17.77	17.17	16.57	15.97	15.37	14.77	14.17
14,800,000,000	18.87	18.27	17.67	17.07	16.47	15.87	15.27	14.67
15,300,000,000	19.37	18.77	18.17	17.57	16.97	16.37	15.77	15.17

PRICE OF HEAVY HOGS PER HUNDREDWEIGHT, AS PREDICTED FROM HOG RECEIPTS AND BANK CLEARINGS OUTSIDE OF NEW YORK CITY—Continued.

MAY.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	117	128	139	150	161	172	183	194
$11,400,000,000	$15.42	$14.82	$14.22	$13.62	$13.02	$12.42	$11.82	$11.22
11,900,000,000	15.92	15.32	14.72	14.12	13.52	12.92	12.32	11.72
12,400,000,000	16.42	15.82	15.22	14.62	14.02	13.42	12.82	12.22
12,900,000,000	16.92	16.32	15.72	15.12	14.52	13.92	13.32	12.72
13,400,000,000	17.42	16.82	16.22	15.62	15.02	14.42	13.82	13.22
13,900,000,000	17.92	17.32	16.72	16.12	15.52	14.92	14.32	13.72
14,400,000,000	18.42	17.82	17.22	16.62	16.02	15.42	14.82	14.22
14,900,000,000	18.92	18.32	17.72	17.12	16.52	15.92	15.32	14.72

JUNE.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	117	128	139	150	161	172	183	194
$11,400,000,000	$15.42	$14.82	$14.22	$13.62	$13.02	$12.42	$11.82	$11.22
11,900,000,000	15.92	15.32	14.72	14.12	13.52	12.92	12.32	11.72
12,400,000,000	16.42	15.82	15.22	14.62	14.02	13.42	12.82	12.22
12,900,000,000	16.92	16.32	15.72	15.12	14.52	13.92	13.32	12.72
13,400,000,000	17.42	16.82	16.22	15.62	15.02	14.42	13.82	13.22
13,900,000,000	17.92	17.32	16.72	16.12	15.52	14.92	14.32	13.72
14,400,000,000	18.42	17.82	17.22	16.62	16.02	15.42	14.82	14.22
14,900,000,000	18.92	18.32	17.72	17.12	16.52	15.92	15.32	14.72

JULY.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	99	110	121	132	143	154	165	176
$11,500,000,000	$15.72	$15.12	$14.52	$13.92	$13.32	$12.72	$12.12	$11.52
12,000,000,000	16.22	15.62	15.02	14.42	13.82	13.22	12.62	12.02
12,500,000,000	16.72	16.12	15.52	14.92	14.32	13.72	13.12	12.52
13,000,000,000	17.22	16.62	16.02	15.42	14.82	14.22	13.62	13.02
13,500,000,000	17.72	17.12	16.52	15.92	15.32	14.72	14.12	13.52
14,000,000,000	18.22	17.62	17.02	16.42	15.82	15.22	14.62	14.02
14,500,000,000	18.72	18.12	17.52	16.92	16.32	15.72	15.12	14.52
15,000,000,000	19.22	18.62	18.02	17.42	16.82	16.22	15.62	15.02

AUGUST.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	99	110	121	132	143	154	165	176
$10,600,000,000	$15.42	$14.82	$14.22	$13.62	$13.02	$12.42	$11.82	$11.22
11,100,000,000	15.92	15.32	14.72	14.12	13.52	12.92	12.32	11.72
11,600,000,000	16.42	15.82	15.22	14.62	14.02	13.42	12.82	12.22
12,100,000,000	16.92	16.32	15.72	15.12	14.52	13.92	13.32	12.72
12,600,000,000	17.42	16.82	16.22	15.62	15.02	14.42	13.82	13.22
13,100,000,000	17.92	17.32	16.72	16.12	15.52	14.92	14.32	13.72
13,600,000,000	18.42	17.82	17.22	16.62	16.02	15.42	14.82	14.22
14,100,000,000	18.92	18.32	17.72	17.12	16.52	15.92	15.32	14.72

PRICE OF HEAVY HOGS PER HUNDREDWEIGHT, AS PREDICTED FROM HOG RECEIPTS AND BANK CLEARINGS OUTSIDE OF NEW YORK CITY—Continued.

SEPTEMBER.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	81	92	103	114	125	136	147	158
$11,000,000,000	$15.72	$15.12	$14.52	$13.92	$13.32	$12.72	$12.12	$11.52
11,500,000,000	16.22	15.62	15.02	14.42	13.82	13.22	12.62	12.02
12,000,000,000	16.72	16.12	15.52	14.92	14.32	13.72	13.12	12.52
12,500,000,000	17.22	16.62	16.02	15.42	14.82	14.22	13.62	13.02
13,000,000,000	17.72	17.12	16.52	15.92	15.32	14.72	14.12	13.52
13,500,000,000	18.22	17.62	17.02	16.42	15.82	15.22	14.62	14.02
14,000,000,000	18.72	18.12	17.52	16.92	16.32	15.72	15.12	14.52
14,500,000,000	19.22	18.62	18.02	17.42	16.82	16.22	15.62	15.02

OCTOBER.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	98	109	120	131	142	153	164	175
$12,800,000,000	$15.27	$14.67	$14.07	$13.47	$12.87	$12.27	$11.67	$11.07
13,300,000,000	15.77	15.17	14.57	13.97	13.37	12.77	12.17	11.57
13,800,000,000	16.27	15.67	15.07	14.47	13.87	13.27	12.67	12.07
14,300,000,000	16.77	16.17	15.57	14.97	14.37	13.77	13.17	12.57
14,800,000,000	17.27	16.67	16.07	15.47	14.87	14.27	13.67	13.07
15,300,000,000	17.77	17.17	16.57	15.97	15.37	14.77	14.17	13.57
15,800,000,000	18.27	17.67	17.07	16.47	15.87	15.27	14.67	14.07
16,300,000,000	18.77	18.17	17.57	16.97	16.37	15.77	15.17	14.57

NOVEMBER.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	122	133	144	155	166	177	188	199
$12,400,000,000	$14.36	$13.76	$13.16	$12.56	$11.96	$11.36	$10.76	$10.16
12,900,000,000	14.86	14.26	13.66	13.06	12.46	11.86	11.26	10.66
13,400,000,000	15.36	14.76	14.16	13.56	12.96	12.36	11.76	11.16
13,900,000,000	15.86	15.26	14.66	14.06	13.46	12.86	12.26	11.66
14,400,000,000	16.36	15.76	15.16	14.56	13.96	13.36	12.76	12.16
14,900,000,000	16.86	16.26	15.66	15.06	14.46	13.86	13.26	12.66
15,400,000,000	17.36	16.76	16.16	15.56	14.96	14.36	13.76	13.16
15,900,000,000	17.86	17.26	16.66	16.06	15.46	14.86	14.26	13.66

DECEMBER.

Bank Clearings Outside New York.	Hog Receipts at Chicago, in Millions of Pounds.							
	158	169	180	191	202	213	224	235
$12,800,000,000	$14.06	$13.46	$12.86	$12.26	$11.66	$11.06	$10.46	$ 9.86
13,300,000,000	14.56	13.96	13.36	12.76	12.16	11.56	10.96	10.36
13,800,000,000	15.06	14.46	13.86	13.26	12.66	12.06	11.46	10.86
14,300,000,000	15.56	14.96	14.36	13.76	13.16	12.56	11.96	11.36
14,800,000,000	16.06	15.46	14.86	14.26	13.66	13.06	12.46	11.86
15,300,000,000	16.56	15.96	15.36	14.76	14.16	13.56	12.96	12.36
15,800,000,000	17.06	16.46	15.86	15.26	14.66	14.06	13.46	12.86
16,300,000,000	17.56	16.96	16.36	15.76	15.16	14.56	13.96	13.36

LIMITATIONS OF THE MATHEMATICAL METHOD

SUCH a mathematical formula as: Hog prices equal .56 bank clearings —.56 hog receipts must always be applied with common sense. In November of 1914, for instance, hog receipts at Chicago were abnormally small on account of foot-and-mouth disease, and in December of the same year they were abnormally large for the same reason. Judging from receipts, we might have expected heavy hogs to sell for $8.83 in November and $6.44 in December. As a matter of fact, the actual price was $7.50 in November and $7.10 in December. It was commonly recognized by the trade that hog receipts at Chicago in November and December of 1914 were abnormal, and not representative of the potential supply in the country at large.

Occasionally, as in November of 1907, falling prices act to curtail receipts. The small receipts in November, 1907, would have indicated a price of $6.75, whereas the actual price was $4.90. As a matter of fact, there was a large number of hogs that year, and the actual price reflected the potential supply rather than the temporary supply.

It is possible to refine the method considerably. For instance, it may be worth while to proceed on the assumption that the relation between hog prices and hog receipts is best expressed by an equation representative of a hyperbola or skew curve instead of a straight line. The straight line equation, based on the years 1903 to 1915, inclusive, is:

Hog prices equal —.8 —.56 hog receipts.

The hyperbola equation for these years is:

Hog prices equal —1.24 —.55 hog receipts
+.0046 hog receipts squared.

The skew or cubic curve equation is:

Hog prices equal —1.18 —.24 hog receipts
+.0027 hog receipts squared
—.00079 hog receipts cubed.

Using these more complex mathematical methods, it is often possible to express the relationships more exactly. But no method, however far refined, will take the place of common sense market judgment. Nevertheless, it may be decidedly helpful to a better

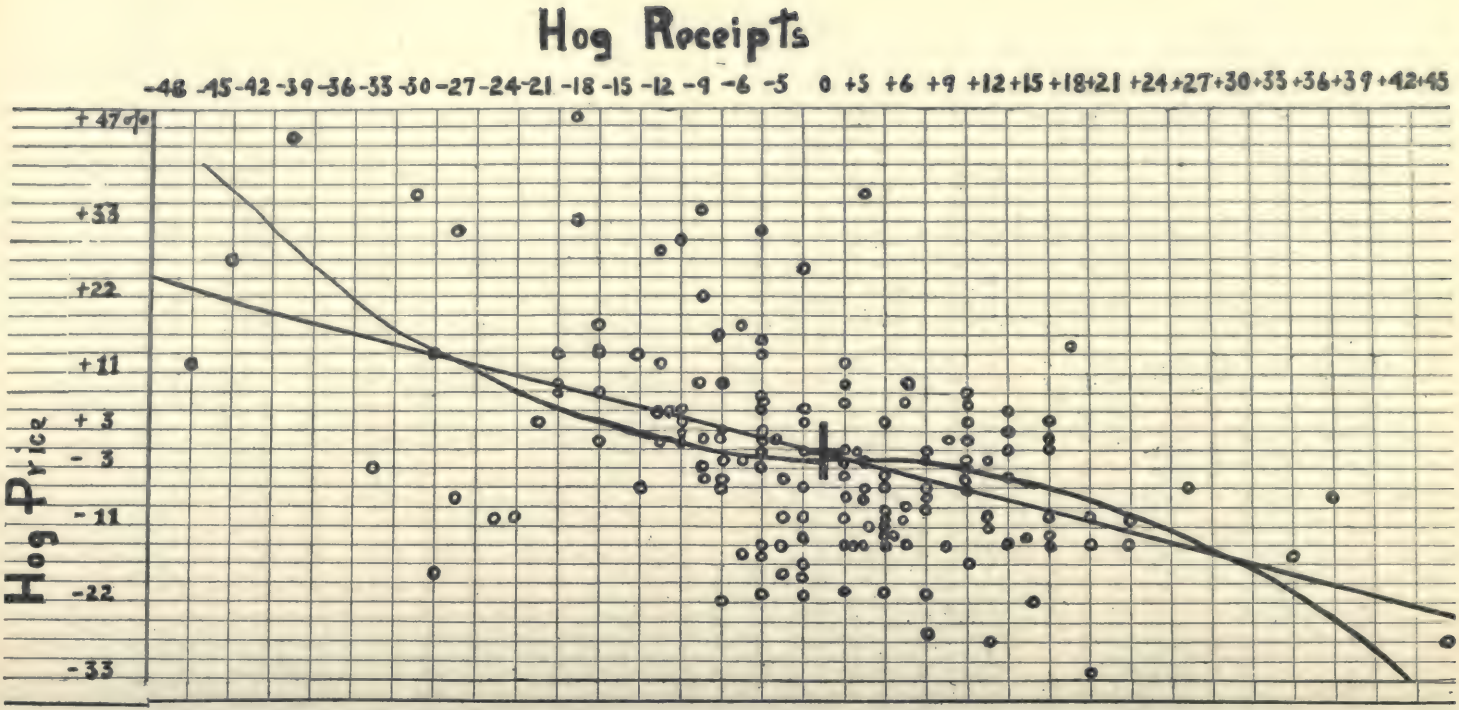


Chart illustrating the straight line as compared with the skew curve, for purposes of expressing the relation between hog receipts at Chicago and hog prices at Chicago. On the basis of the curve when the receipts are 45 per cent less than the secular trend corrected seasonally, the price should be 38 per cent over, and when the receipts are 42 per cent over the secular trend corrected seasonally, the price should be 33 per cent under.

understanding of the normal working of supply and demand to use both hyperbolas and cubic curves on occasion.

Other refinements of the mathematical study of hog prices may consist in working out the correlation coefficients between hog prices and receipts at six markets or eleven markets instead of using Chicago receipts alone. Work may be done looking into the relation between hog prices and potential supply as contrasted with the temporary or month-by-month supply. So far as the relation between hog prices and business conditions is concerned, it should be worth while to work out correlation coefficients between hog prices and the amount of new building, or hog prices and Dun's index number. In fact, there are a great many measures of business activities which may possibly measure the demand for hogs better than bank clearings outside of New York City.*

Some people may think it advisable to work out a correlation and line of regression illustrating the relation between hog prices and corn prices. This has been attempted, but it has been found that after the secular and seasonal trends are taken out of both corn prices and hog prices there is practically no relation between them. It is a curious commentary on our present marketing systems that corn prices and hog prices, while very closely related decade by decade, have very little influence on each other month by month. In other words, changing costs of production can have practically nothing to do with the month-by-month changes in the market price under our present economic system. Unusually high corn prices today are more likely to influence the hog prices of next year than the hog prices of today.

After everything has been done which can be done by mathematical method, there will still be room for common-sense judgment. But such judgment is best applied by men wise in market lore, men familiar with the technique of production, and who also are familiar with such mathematical methods as are here described.

Since the chapter, "Limitations of the Mathematical Method," was written, it has been discovered that hog receipts at eleven markets are a more accurate indicator of hog prices than receipts at Chicago, and that prices of Connelsville coke are a better indicator of the demand for hogs than bank clearings outside New York City. The multiple coefficient of correlation between hog prices on the one hand and Chicago hog receipts and bank clearings outside New York City on the other hand is .65, whereas between hog prices and hog receipts at eleven markets and coke prices the multiple coefficient of correlation is .70.

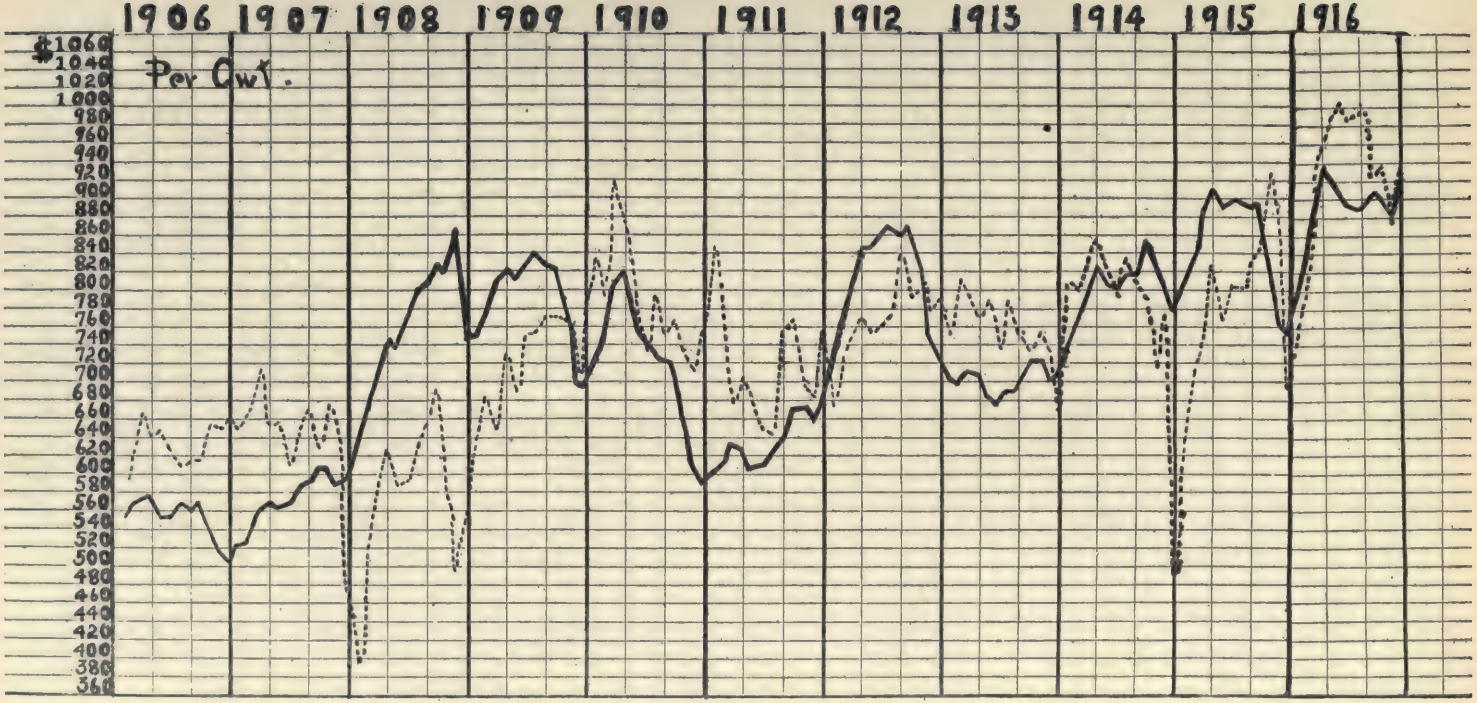
CONCLUSIONS BASED ON RATIOS AND MATHEMATICS OF SUPPLY AND DEMAND

BY MEANS of corn-hog ratios, it is possible to determine with great accuracy month by month the production cost of one hundred pounds of hog flesh. The actual price, however, has been quite different from the cost-of-production price, except as an average of long periods of time. This is indicated by the profit and loss chart on page 32, the black areas above and below the zero line indicating the departure of the actual price from the ratio or cost of production price.

The actual price heretofore has been determined chiefly by the action of supply and demand and not by cost of production. The close agreement between actual price and the supply-and-demand price as based on a formula derived from bank clearings and hog receipts is shown on page 96. In the chart on page 107 are presented the cost-of-production price based on ratios and the supply-and-demand price as based on bank clearings and hog receipts.

The ratio or cost-of-production price is much steadier than the supply-and-demand price. If the farmers could arrange with the packers for a price more nearly representing the cost-of-production or ratio price, it is obvious that the supply of hogs might be considerably steadied. Once farmers realize that neither excessive profits nor excessive losses are to be expected in the hog business, they will steady down to producing about the same number of hogs each year, and they will send them to market in a uniform stream, instead of in irregular spurts.

Of course, there are always uncertainties in the way of weather, disease, etc. Hot, dry weather in July and August may curtail the corn crop and shoot up the price of corn and the cost of producing hogs. Such hot, dry weather immediately increases the cost of producing hogs. The packers, heretofore, have been either unable or unwilling to pay a price for hogs sufficient to cover the increased cost of production caused by the hot, dry weather, and as a result they have been compelled to pay more than cost of production a year or so later. Why shouldn't the packers and farmers constantly educate the public to pay the cost-of-production price? Tell the public that the drouth and high corn prices have increased the cost of producing hogs, and the price must be increased to prevent a shortage next year. Why shouldn't the farm-



Dotted line represents the supply-and-demand price of hogs as derived from bank clearings and hog receipts. Solid line represents cost of producing hogs, based on corn-hog ratios.

ers try to find a way to regulate the supply with an iron hand, in an endeavor to maintain approximately the cost-of-production price at all times? This means willingness to lower the price of hogs in years when the corn crop is large, as well as ability to raise the price in years of a short corn crop.

Unquestionably there are vagaries in the consuming demand for pork which might make the payment of a cost-of-production price difficult for a time. It is believed, however, that powerful corn belt farmers' organizations working in co-operation with the packers should be able to educate consumers to the cost-of-production idea, and so far as seasonal vagaries in the demand are concerned, the farmers and packers should be able to come to an agreement providing for paying rather more than the demand price for hogs in times of poor demand and rather less than the demand price for hogs in times of good demand, in an effort to make price meet cost of production rather than temporary demand idiosyncrasies.

It is realized that the difficulties in the way of paying cost of production at all times are even greater than here indicated. The idea, in fact, runs counter to the *laissez faire*, competitive price system under which business is conducted today. It is believed, however, that in the future more and more attention must be paid to production and less and less to price manipulation. To this end, products must be sold at all times as nearly as possible at the cost-of-production price. There must be no prospect of unusual profit or unusual loss in the production of staple products. We are now referring to industries as a whole. It is inevitable, of course, that certain individuals will make great profits and others will incur losses, even in years when the cost-of-productoin or ratio price is paid. Full consideration must always be given to the physical facts and to special emergencies as they arise. Standard ratios representing cost of production for an industry may suddenly be rendered out-of-date by a new invention. New situations must be recognized frankly, but at all times the guiding motive should be to pay the cost-of-production price, in order that supply and demand may operate more smoothly.

To give the cost of production price broader sway in our price system does not necessarily involve governmental control. The first step is education in price judging. Even in the grade schools and country schools, ratio methods of price judgment should be taught. In high schools the matter may be carried farther, and it is suggested that not only should the ratio method of price judging be taught in high school, but also the practical use of correla-

tion coefficients and lines of regression in determining prices from business conditions and the supply. In college (and the colleges have been most neglectful in this matter) specific problems should be worked out in great detail. Students in such classes should have access to adding machines, calculating machines, rechentaffels, and other modern devices for making calculations easy and accurate. But the most important thing of all just now is adequate research by colleges, by experiment stations, and by governmental departments. The government and market agencies must continue to improve their statistical records, and research students must study these records with all the refinements of statistical method.

An excellent start along this line has been made by the Harvard University Committee on Economic Research. This committee seems to be concerned altogether with the industrial world. It is essential that the agricultural world be given similar service.

The object of it all is to discover the best possible kind of machinery thru which the law of supply and demand may work to the end that violent fluctuations in supply and demand may be reduced to the lowest possible point consistent with changing weather and unforeseeable accidents. The present price system is not perfect; it can be improved. But before improvements can be made, the present system must be studied with the greatest thoroness. The great weakness of the present price system is that the men who operate it are concerned chiefly with making the greatest possible profit, and not at all with making the law of supply and demand operate smoothly on a price level roughly equivalent to cost of production.

The highest purpose of our price system should be to tell producers truthfully what to do in the future, instead of capitalizing a temporary supply and demand situation to the advantage of certain bright speculators. The $4.50 price for hogs in January of 1908 was a lie so far as it guided the future action of hog producers. So also was the $11 price in March of 1910. Both prices told the approximate truth about a temporary supply-and-demand situation. But both were fundamentally lies. Our whole *laissez faire* system is full of lies of this sort. Surely we have enough in the way of legitimate physical handicaps such as weather and pests so that we should be willing to run our price system more truthfully.

So far as farmers are concerned, the object of studies of this kind is, first, to play the price game as well as capital and labor; and, second, to co-operate with capital and labor to enforce prices

roughly equivalent to cost of production, to the end that supply and demand may operate more smoothly.

It is anticipated that greater emphasis on "cost-of-production price" and less emphasis on "supply-and-demand price" will result in gradually replacing most business men with production engineers and statistical economists. Business men have had profit as their sole motive. What we need is production engineers whose chief concern is production methods, and statistical economists who are able to understand the delicate inter-relations of different industries. It is believed that there is in most men a desire to do their work well, and that this desire will find more complete expression, to the benefit of the bulk of the people, under the guidance of men whose supreme motive is not profit but technical understanding and love of the work to be done. All this concerns the farmer, to the extent that when the industrial world shifts to this kind of basis, he may be more certain of a stable price for his products.

Substituting production engineers and statistical economists for business men means doing away with the chance of excessive gains and excessive losses. And this is proper so far as production of and trade in staple products is concerned.

The only place where the commercial imagination of the old-fashioned risk-taking business men has legitimate place is in working with things which are not staple, such as theaters, luxuries, newspapers, etc.

APPENDIX

SUGGESTIONS CONCERNING THE TABLES IN THE APPENDIX

THE man who studies the figures as to receipts, prices, etc., as they unroll day by day and month by month in the great central markets gradually develops market judgment. Of course, there is more in the market than figures, but a thoro understanding of statistical relationships, of normal seasonal trends, etc., is necessary before one can fully appreciate the extraordinary or strategical considerations which are occasionally involved.

It is suggested that those who are really interested in prices should fill in month by month in the blank tables the figures as they become available. Sources of current figures are the Market Reporter, published weekly by the United States Department of Agriculture; the daily live stock papers published at the great central markets; the Monthly Crop Reporters, published by the United States Department of Agriculture, and, so far as retail prices are concerned, the monthly publications of the Bureau of Labor Statistics. It is hoped that eventually the Bureau of Markets of the United States Department of Agriculture will have available exceedingly valuable figures. At present, however, the Bureau of Markets figures are practically worthless because they have not been continued long enough to have sufficient background to enable anyone to judge them properly.

The effort has been made in the prices here collected to cover the period immediately preceding the war quite thoroly, in order that those who are interested may work out normal pre-war relationships.

In all price questions, the problem of grade is involved. Gradually the grade classifications have been made more and more scientific, but even to this day there is haziness in certain products, notably cattle. It is believed, therefore, that the cattle prices are more unreliable than any other. Scientific grading of cattle is possible, and will be adopted as soon as the producers are in position to demand it.

Market figures furnish the laboratory of economics. It is believed that it is as essential for students at agricultural colleges to do laboratory work in economics as it is for them to spend such a large part of their time in the chemical, zoological or botanical laboratories. When the agricultural students judge marketable live stock, it is suggested that they be required to estimate the

weight, grade, dressing percentage and probable Chicago price. An ingenious teacher, who is familiar with economics and market grades of grain and live stock, can think of many devices to bring home to his students the fact that the market is a living thing, yet subject to certain laws which are almost as exact as Mendel's law of inheritance.

The author will appreciate being informed of any mistakes in the figures. Great pains have been taken to make them accurate, but it is inevitable that a few mistakes will creep in.

The following gives a description of grades and sources of information for some of the products for which figures are given in the tables of the Appendix:

HEAVY HOG PRICES AT CHICAGO.

From 1896 to date, heavy hog prices, as compiled by Chas. A. S. McCracken for the Chicago Drovers' Journal Year Book, have been used. From 1881 to 1895, inclusive, the average of the range of Chicago hog prices, as compiled by the Cincinnati Price Current, has been used. Properly speaking, these prices refer more nearly to average hogs than to heavy hogs. Previous to 1881, prices have been compiled from the Chicago Board of Trade Reports, the grade known as heavy packers and shippers being used so far as possible.

CORN PRICES AT CHICAGO.

No. 2 mixed has been used thruout. From 1880 to 1916, inclusive, the average of the high and low for the month has been taken. Since January, 1917, each day of the month has been averaged. Previous to 1880, averages were taken either weekly or semi-monthly. All figures are derived either from the Howard-Bartels Red Book or the Chicago Board of Trade Reports. The two sources generally agree.

OATS PRICES AT CHICAGO.

Previous to 1876, the grade known as No. 1 was chiefly used. Since 1876, No. 2, Standard or Contract oats has been used. Previous to 1881, averages were taken weekly or semi-monthly. Since 1881, the high and low for the month have been averaged. Previous to 1881, Chicago Board of Trade Reports were used. Since 1881, the Howard-Bartels Red Books have been used, which quote practically the same figures as the Board of Trade.

WHEAT PRICES AT CHICAGO.

Previous to 1883, the grade known as No. 2 Spring was used, weekly or semi-monthly averages being taken from the Chicago Board of Trade Reports. From 1883 to 1903, inclusive, there is a slight confusion in grades, but the No. 2 Spring is used chiefly, averages of high and low for the month being taken from the Howard-Bartels Red Book.

From 1904 to 1913, inclusive, prices are based on No. 2 Red and No. 1 Northern, the high of the one and the low of the other being used. From 1914 on, prices are based on No. 2 Red, No. 2 Hard and No. 1 Northern,

the highest of the highest-priced grade and the lowest of the lowest-priced grade being averaged.

LIVE STOCK PRICES AND RECEIPTS.

Practically all of the live stock figures since 1903 have been compiled from the Chicago Drovers' Journal Year Books. Mr. Chas. A. S. McCracken has compiled the price figures from actual transactions day by day in the stock yards for the past thirty years, and is still with the Drovers' Journal. The original source for live stock receipts is the stock yards companies, but we have used the reports of the Drovers' Journal. For the years 1903, 1904 and 1905, for receipts at six markets, we have used figures furnished by Mr. M. F. Horine, statistician for the Chicago Union Stock Yards. These figures seem to be comparable with the figures for the later years, except in the case of cattle, where there is evidently some confusion in the counting of calves. The cattle receipts at six markets, as published by 1903, 1904 and 1905 reports, are about 8 per cent too large to be truly comparable with the later years.

RETAIL PRICES.

Retail price figures are taken from the publications of the Bureau of Labor Statistics. Concerning the significance of these figures, the following statement of Royal Meeker, Commissioner of Labor Statistics, is of value: "We secure retail prices of 44 articles of food from 50 cities on the 15th of each month. The stores selected are those patronized by wage-earners. The goods carried are standard grades and brands. The Bureau requests that these grades and brands be uniform thruout the year, as nearly as possible. Some of these stores are 'cash-and-carry,' and some of them deliver, depending on the locality in which they are situated. The Bureau makes every effort to have each city represented by a sufficient number of stores so the prices published for that city will represent the average prices charged to the wage-earner. Of course, the chances are that there will be differences, as we do not carry either the high-class stores or the cut-rate stores."

CHICAGO HEAVY HOG PRICES.

	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	4.85	5.05	2.35	3.60	5.90	11.15	9.30	6.10	6.60	10.15	6.51
February	5.25	5.00	2.50	4.05	6.35	11.30	9.45	6.50	7.75	10.35	6.85
March	5.05	4.75	3.00	4.15	6.55	11.15	9.40	6.60	8.65	9.85	6.92
April	4.90	4.55	2.90	4.25	6.95	9.50	8.55	6.80	8.55	9.75	6.67
May	4.80	3.85	2.50	3.75	6.45	7.50	8.70	6.25	8.25	8.75	6.08
June	4.80	3.10	2.40	4.15	7.25	7.80	8.95	5.90	7.65	8.75	6.08
July	5.20	2.70	2.55	4.25	8.55	9.25	9.40	6.05	8.35	8.95	6.53
August	5.35	2.75	2.60	3.80	8.90	10.85	9.85	6.35	9.15	9.20	6.88
September	5.30	2.80	2.90	4.20	9.50	11.70	9.30	6.15	8.70	9.25	6.98
October	5.30	2.80	2.90	4.10	8.65	12.20	8.65	5.85	7.50	9.30	6.73
November	5.30	2.65	3.45	4.50	9.75	11.15	6.95	5.75	7.00	9.10	6.56
December	4.60	2.45	3.80	5.05	10.05	9.05	5.85	6.60	8.35	9.80	6.56
Yearly aver.	5.06	3.54	2.83	4.16	7.91	10.23	8.69	6.24	8.04	9.44	6.61

CHICAGO HEAVY HOG PRICES—Continued.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Ten-yr. av.
January	9.05	6.60	4.35	3.85	5.20	6.60	7.15	6.45	4.05	2.90	5.62
February	9.00	7.30	4.45	4.20	5.35	6.95	7.95	6.15	3.90	3.70	5.90
March	8.55	6.75	4.45	4.95	5.30	7.50	8.55	5.50	3.70	3.95	5.92
April	8.80	5.60	4.25	5.40	5.50	8.25	8.05	5.55	3.55	3.70	5.87
May	8.75	4.55	4.05	4.90	5.50	7.90	7.15	5.30	3.30	3.50	5.49
June	8.60	3.80	3.90	4.45	5.55	7.00	6.05	4.85	3.50	3.75	5.15
July	9.00	4.40	4.05	4.55	6.05	7.05	7.00	4.95	4.10	3.60	5.48
August	9.50	4.40	4.65	4.60	6.90	7.75	6.15	5.05	4.25	3.40	5.67
September	9.30	4.45	4.90	4.50	7.25	8.00	6.00	5.30	3.95	3.45	5.71
October	7.90	4.30	4.60	4.30	6.00	7.95	5.90	5.35	3.45	3.60	5.34
November	6.85	4.00	4.25	3.85	6.50	7.30	5.75	4.70	2.95	3.85	5.00
December	6.15	4.15	3.75	4.70	6.85	6.95	5.95	4.25	2.70	4.55	5.00
Yearly aver.	8.46	5.03	4.31	4.53	6.00	7.44	6.81	5.29	3.62	3.67	5.51

CHICAGO HEAVY HOG PRICES—Continued.

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	Ten-yr. av.
January	4.60	5.15	6.60	6.35	5.85	4.60	3.85	4.45	5.40	5.00	5.19
February	4.45	5.90	6.80	6.90	6.70	4.60	4.05	5.20	5.35	4.70	5.47
March	4.45	5.90	6.80	7.25	6.50	4.55	4.15	5.30	5.45	4.75	5.51
April	4.50	5.95	7.10	7.50	5.95	4.55	4.00	5.00	5.50	4.75	5.48
May	4.30	6.05	7.70	7.30	5.55	4.05	4.00	4.60	5.55	4.50	5 36
June	4.30	5.90	7.90	6.50	5.20	4.00	4.15	4.55	5.55	4.35	5.24
July	4.55	6.40	8.20	5.65	5.25	4.55	4.60	5.30	6.10	4.40	5.50
August	4.95	6.50	8.45	5.50	5.70	4.55	4.45	4.75	6.20	4.15	5.52
September	5.25	6.75	8.40	5.20	5.20	4.10	4.35	5.00	6.20	4.20	5.47
October	4.85	6.60	7.65	4.70	4.70	3.80	4.10	4.50	6.05	4.25	5.12
November	4.75	6.20	6.75	4.75	4.45	3.50	3.75	4.85	5.95	3.85	4.88
December	4.75	6.15	6.20	5.20	4.20	3.65	4.25	5.20	5.20	3.60	4.84
Yearly aver.	4.64	6.13	7.38	6.07	5.44	4.21	4.14	4.89	5.71	4.38	5.30

CHICAGO HEAVY HOG PRICES--Continued.

	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	3.70	3.55	4.25	7.45	5.30	4.25	3.95	3.35	3.65	3.75	4.32
February . . .	3.95	3.50	4.60	7.95	5.10	4.15	4.10	3.35	4.00	3.80	4.45
March	4.10	4.20	4.55	7.55	4.75	4.60	3.90	3.85	3.90	3.80	4.52
April	4.25	4.80	4.50	7.05	5.00	4.90	3.55	4.05	3.90	3.85	4.59
May	4.05	4.65	4.55	7.40	4.90	4.55	3.30	3.75	4.35	3.90	4.54
June	3.75	4.50	5.00	6.65	4.75	4.65	3.15	3.40	4.10	3.80	4.38
July	3.75	5.10	5.65	5.60	5.30	5.10	3.05	3.50	3.95	4.25	4.53
August	3.80	5.10	5.40	5.05	5.35	4.65	3.05	3.90	3.90	4.55	4.48
September . . .	4.35	4.90	5.15	6.00	5.85	4.10	2.90	4.00	3.85	4.40	4.55
October	4.05	4.50	5.35	6.40	5.15	3.85	3.25	3.75	3.70	4.30	4.43
November . . .	3.80	3.85	5.50	5.70	4.35	3.55	3.25	3.40	3.45	3.90	4.08
December . . .	3.40	3.65	6.15	5.65	4.35	3.50	3.25	3.35	3.40	4.05	4.08
Yearly aver.	3.92	4.36	5.06	6.54	5.02	4.33	3.39	3.64	3.85	4.03	4.41

CHICAGO HEAVY HOG PRICES—Continued.

	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	Ten-yr. av.
January	4.55	5.25	6.40	6.60	4.95	4.70	5.40	6.60	4.45	6.20	5.51
February . . .	4.90	5.40	6.30	7.00	5.25	4.90	6.00	7.05	4.50	6.45	5.78
March	5.00	5.90	6.50	7.45	5.50	5.20	6.30	6.65	5.05	6.80	6.04
April	5.55	5.85	7.10	7.30	5.15	5.45	6.50	6.60	5.85	7.30	6.27
May	5.30	5.80	7.00	6.60	4.75	5.40	6.45	6.35	5.50	7.40	6.06
June	5.20	6.00	7.50	6.05	5.05	5.30	6.55	6.05	5.80	7.80	6.13
July	5.25	5.90	7.80	5.45	5.35	5.60	6.60	5.90	6.55	7.90	6.23
August	5.20	5.95	7.25	5.30	5.25	5.90	6.15	5.90	6.60	7.60	6.11
September . . .	5.25	6.65	7.55	5.75	5.70	5.40	6.15	5.80	6.90	8.10	6.33
October	4.80	6.10	7.00	5.40	5.35	5.10	6.40	6.05	6.05	7.85	6.01
November . . .	4.80	5.70	6.35	4.60	4.80	4.80	6.20	4.90	5.90	8.10	5.62
December . . .	4.75	6.20	6.35	4.50	4.50	4.90	6.25	4.65	5.75	8.45	5.63
Yearly aver.	5.05	5.89	6.93	6.00	5.14	5.23	6.25	6.04	5.74	7.50	5.97

CHICAGO HEAVY HOG PRICES—Continued.

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
January	8.70	7.85	6.30	7.40	8.35	6.80	7.30	11.00	16.40	17.60	9.77
February . . .	9.20	7.25	6.25	8.05	8.55	6.70	8.30	12.50	16.70	17.65	10.12
March	10.65	6.70	7.10	8.75	8.60	6.65	9.60	14.90	17.00	19.00	10.91
April	10.00	6.15	7.85	8.80	8.50	7.05	9.70	15.80	17.40	20.30	11.16
May	9.50	5.85	7.70	8.40	8.30	7.40	9.85	16.00	17.45	20.60	11.11
June	9.35	6.15	7.50	8.50	8.15	7.35	9.75	15.65	16.50	20.30	10.92
July	8.60	6.65	7.60	8.95	8.60	6.95	9.75	15.20	17.70	21.65	11.17
August	8.25	7.15	8.05	8.10	8.75	6.70	10.20	17.00	18.90	19.75	11.29
September . . .	8.70	6.75	8.30	8.10	8.60	7.20	10.55	18.30	19.55	17.25	11.33
October	8.45	6.50	8.65	8.15	7.55	7.75	9.85	17.25	17.55	14.25	10.60
November . . .	7.75	6.35	7.75	7.80	7.50	6.85	9.85	17.60	17.70	14.10	10.31
December . . .	7.65	6.25	7.45	7.70	7.10	6.60	10.00	16.95	17.55	13.50	10.08
Yearly aver.	8.89	6.64	7.54	8.23	8.22	7.00	9.56	15.68	17.53	18.00	10.73

CHICAGO CORN PRICES.

	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	.48	.29	.23	.47	.82	.90	.38	.70	.86	.55	.568
February	.41	.28	.23	.51	.89	.88	.35	.68	.82	.56	.561
March	.42	.27	.24	.50	.79	.79	.37	.74	.83	.54	.549
April	.46	.30	.26	.47	.92	.63	.42	.93	.82	.54	.575
May	.48	.33	.27	.48	1.04	.54	.48	.96	.88	.58	.604
June	.46	.23	.26	.48	1.15	.52	.51	.88	.85	.62	.596
July	.43	.23	.28	.48	1.30	.56	.56	.80	.88	.81	.633
August	.40	.23	.33	.49	1.26	.67	.56	.90	.97	.90	.671
September	.37	.21	.29	.60	1.30	.60	.54	1.00	.94	.84	.669
October	.38	.22	.34	.79	1.25	.49	.66	1.06	.87	.67	.673
November	.32	.22	.31	.88	1.35	.52	.87	.97	.76	.73	.693
December	.28	.24	.37	.93	.97	.43	.76	.84	.64	.76	.622
Yearly aver.	.407	.254	.284	.590	1.082	.628	.540	.872	.843	.675	.618

CHICAGO CORN PRICES—Continued.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Ten-yr. av.
January	.72	.47	.41	.31	.55	.66	.43	.44	.42	.30	.471
February	.70	.52	.40	.31	.58	.64	.41	.42	.40	.32	.470
March	.72	.54	.38	.32	.60	.66	.44	.40	.42	.33	.481
April	.82	.54	.40	.34	.63	.71	.47	.46	.40	.32	.509
May	.87	.54	.46	.39	.62	.71	.47	.53	.40	.34	.533
June	.83	.53	.49	.34	.60	.67	.45	.46	.36	.36	.509
July	.83	.51	.41	.36	.62	.70	.46	.48	.38	.36	.511
August	.74	.45	.41	.39	.67	.69	.45	.45	.39	.33	.497
September	.64	.47	.36	.40	.77	.59	.45	.44	.36	.35	.483
October	.60	.47	.33	.38	.76	.55	.44	.43	.34	.41	.471
November	.61	.46	.33	.38	.77	.52	.44	.45	.32	.42	.470
December	.50	.41	.31	.50	.78	.49	.45	.44	.31	.41	.460
Yearly aver.	.715	.492	.381	.368	.662	.632	.446	.450	.375	.354	.487

CHICAGO CORN PRICES—Continued.

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	Ten-yr. av.
January	.39	.37	.62	.60	.54	.37	.37	.36	.49	.34	.445
February	.37	.37	.58	.57	.54	.37	.37	.35	.47	.35	.434
March	.35	.40	.64	.56	.52	.39	.37	.37	.49	.34	.443
April	.34	.42	.74	.53	.50	.45	.37	.38	.52	.34	.459
May	.37	.43	.73	.55	.55	.47	.36	.38	.57	.34	.475
June	.36	.45	.72	.54	.54	.47	.35	.37	.51	.34	.465
July	.36	.48	.78	.50	.53	.47	.40	.36	.48	.36	.472
August	.38	.57	.77	.52	.53	.45	.42	.40	.45	.35	.484
September	.40	.67	.67	.50	.69	.43	.39	.42	.43	.33	.493
October	.40	.68	.65	.48	.50	.42	.35	.42	.43	.32	.465
November	.42	.61	.68	.52	.40	.43	.35	.44	.39	.46	.470
December	.39	.61	.55	.59	.37	.39	.37	.49	.35	.32	.443
Yearly aver.	.378	.505	.678	.539	.518	.426	.373	.395	.465	.349	.463

CHICAGO CORN PRICES—Continued.

	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	.29	.49	.38	.42	.35	.43	.27	.23	.27	.37	.350
February	.28	.52	.40	.42	.35	.41	.28	.23	.29	.35	.353
March	.29	.62	.39	.41	.36	.44	.29	.24	.29	.35	.368
April	.31	.71	.41	.41	.38	.47	.30	.24	.32	.35	.390
May	.34	.62	.70	.42	.38	.52	.29	.24	.35	.33	.419
June	.34	.58	.51	.40	.40	.50	.27	.24	.32	.34	.390
July	.40	.62	.50	.39	.44	.45	.26	.26	.34	.33	.399
August	.48	.63	.52	.38	.53	.40	.23	.30	.32	.32	.411
September	.48	.58	.46	.40	.53	.34	.21	.30	.30	.33	.393
October	.51	.55	.42	.39	.51	.30	.24	.27	.31	.32	.382
November	.51	.64	.42	.37	.50	.28	.24	.27	.33	.32	.388
December	.50	.49	.41	.35	.46	.26	.23	.26	.36	.31	.363
Yearly aver.	.394	.588	.460	.397	.433	.400	.259	.257	.317	.335	.384

CHICAGO CORN PRICES—Continued.

	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	Ten-yr. av.
January	.31	.37	.61	.46	.45	.43	.42	.42	.59	.60	.466
February	.33	.39	.59	.44	.50	.44	.41	.44	.58	.63	.475
March	.36	.42	.59	.44	.53	.47	.42	.44	.62	.66	.495
April	.40	.45	.61	.44	.51	.48	.46	.48	.67	.70	.520
May	.38	.51	.62	.45	.49	.56	.49	.53	.75	.74	.552
June	.40	.43	.66	.50	.49	.54	.52	.53	.71	.74	.552
July	.42	.51	.72	.51	.49	.56	.49	.54	.74	.71	.569
August	.39	.57	.57	.52	.54	.55	.51	.58	.79	.68	.570
September	.41	.57	.60	.49	.53	.53	.50	.62	.80	.66	.571
October	.39	.56	.58	.45	.54	.52	.49	.61	.73	.61	.548
November	.42	.61	.55	.43	.54	.49	.46	.58	.64	.63	.535
December	.38	.65	.51	.42	.46	.46	.46	.60	.60	.64	.518
Yearly aver.	.383	.504	.601	.463	.506	.503	.469	.531	.685	.667	.531

CHICAGO CORN PRICES—Continued.

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
January	.65	.47	.67	.49	.63	.73	.76	.99	1.81	1.40	.860
February	.65	.47	.65	.50	.62	.73	.76	1.01	1.75	1.31	.845
March	.63	.47	.70	.52	.67	.73	.74	1.12	1.72	1.51	.881
April	.59	.50	.78	.56	.67	.76	.77	1.45	1.66	1.63	.937
May	.60	.54	.79	.58	.70	.77	.74	1.64	1.62	1.77	.975
June	.59	.56	.74	.61	.71	.74	.74	1.71	1.59	1.92	.991
July	.63	.63	.72	.64	.72	.79	.81	2.00	1.65	2.19	1.078
August	.63	.64	.78	.73	.80	.79	.85	1.97	1.71	1.95	1.085
September	.55	.67	.74	.75	.78	.72	.87	2.10	1.59	1.53	1.030
October	.50	.72	.64	.70	.74	.63	1.00	1.99	1.38	1.39	.969
November	.50	.73	.54	.73	.70	.65	1.02	2.10	1.37	1.47	.981
December	.48	.70	.51	.70	.65	.72	.92	1.73	1.45	1.47	.933
Yearly aver.	.584	.592	.689	.626	.699	.730	.832	1.650	1.608	1.628	.964

CHICAGO CORN-HOG RATIOS BY DECADES.

	1860-1869.	1870-1879.	1880-1889.	1890-1899.	1900-1909.	1910-1919.
January	11.5	11.9	11.7	12.3	11.8	11.4
February	12.2	12.6	12.6	12.6	12.2	12.0
March	12.6	12.3	12.4	12.3	12.2	12.4
April	11.6	11.5	11.9	11.8	12.1	11.9
May	10.1	10.3	11.3	10.8	11.0	11.4
June	10.2	10.1	11.3	11.2	11.1	11.0
July	10.3	10.7	11.7	11.4	11.0	10.4
August	10.3	11.4	11.4	10.9	10.7	10.3
September	10.4	11.8	11.1	11.6	11.1	11.1
October	10.0	11.3	11.0	11.6	11.0	11.0
November	9.5	10.6	10.2	10.5	10.5	10.6
December	10.5	10.9	10.9	11.2	10.9	10.5

CHICAGO OATS PRICES.

	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	.37	.17	.16	.46	.65	.64	.24	.43	.59	.50	.421
February . . .	.33	.17	.17	.57	.65	.61	.23	.42	.57	.55	.427
March	.32	.15	.18	.56	.64	.53	.25	.47	.58	.56	.424
April	.31	.17	.19	.59	.67	.42	.28	.58	.60	.56	.437
May	.30	.18	.25	.56	.68	.39	.32	.70	.69	.62	.469
June	.28	.14	.26	.58	.73	.48	.32	.65	.67	.62	.473
July	.27	.15	.27	.56	.78	.44	.30	.62	.67	.68	.474
August	.20	.16	.32	.38	.69	.42	.28	.53	.56	.52	.406
September . . .	.20	.14	.31	.47	.65	.33	.33	.50	.54	.47	.394
October	.18	.16	.35	.60	.62	.29	.39	.55	.51	.42	.407
November . . .	.17	.16	.34	.65	.64	.28	.41	.55	.49	.43	.412
December . . .	.17	.18	.39	.66	.66	.26	.42	.55	.49	.44	.422
Yearly aver.	.259	.161	.266	.554	.672	.424	.314	.546	.580	.531	.431

CHICAGO OATS PRICES—Continued.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Ten-yr. av.
January	.42	.43	.34	.27	.42	.55	.31	.35	.24	.20	3.53
February . . .	.41	.49	.34	.28	.44	.55	.31	.35	.24	.21	.362
March	.39	.52	.33	.28	.45	.56	.33	.33	.24	.23	.366
April	.45	.51	.33	.29	.47	.60	.32	.37	.24	.22	.380
May	.51	.50	.39	.34	.49	.65	.30	.42	.26	.27	.413
June	.52	.51	.41	.31	.48	.60	.30	.46	.24	.32	.415
July	.51	.50	.29	.31	.49	.53	.29	.31	.25	.31	.379
August	.42	.32	.30	.29	.44	.48	.31	.25	.23	.24	.328
September . . .	.38	.32	.27	.31	.46	.38	.33	.24	.20	.24	.313
October	.38	.33	.24	.32	.50	.36	.33	.23	.19	.29	.317
November . . .	.41	.33	.23	.32	.50	.33	.32	.25	.20	.32	.341
December . . .	.41	.34	.26	.39	.55	.32	.34	.25	.20	.35	.341
Yearly aver.	.434	.425	.311	.309	.474	.493	.316	.318	.228	.267	.357

CHICAGO OATS PRICES—Continued.

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	Ten-yr. av.
January	.38	.31	.44	.37	.33	.27	.32	.26	.30	.25	.323
February . . .	.32	.31	.42	.39	.33	.28	.29	.25	.29	.26	.314
March	.30	.32	.44	.42	.31	.29	.30	.24	.29	.25	.316
April	.28	.35	.49	.41	.30	.32	.27	.25	.30	.23	.320
May	.31	.38	.52	.41	.32	.34	.28	.25	.35	.23	.339
June	.29	.38	.52	.35	.32	.33	.27	.26	.32	.22	.326
July	.25	.41	.57	.32	.30	.27	.30	.26	.31	.22	.321
August	.25	.36	.48	.27	.27	.24	.26	.25	.28	.20	.286
September . . .	.29	.42	.34	.27	.25	.26	.25	.25	.24	.19	.276
October	.31	.45	.34	.28	.27	.25	.24	.26	.24	.19	.283
November . . .	.31	.44	.36	.30	.26	.29	.26	.28	.26	.20	.296
December . . .	.31	.45	.38	.33	.24	.28	.25	.30	.26	.21	.301
Yearly aver.	.300	.382	.442	.344	.292	.285	.274	.259	.287	.221	.308

CHICAGO OATS PRICES—Continued.

	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	.21	.44	.29	.31	.28	.29	.18	.16	.23	.27	.266
February	.20	.46	.30	.31	.28	.28	.20	.16	.26	.28	.273
March	.21	.51	.29	.30	.30	.29	.19	.17	.26	.26	.278
April	.24	.53	.29	.28	.31	.29	.19	.17	.28	.26	.284
May	.27	.50	.31	.31	.35	.30	.19	.18	.28	.26	.295
June	.28	.40	.32	.29	.42	.28	.17	.18	.24	.25	.283
July	.31	.33	.32	.26	.38	.24	.17	.18	.23	.22	.264
August	.37	.30	.33	.24	.31	.21	.17	.18	.21	.21	.253
September	.37	.28	.33	.26	.29	.19	.16	.20	.21	.22	.251
October	.41	.28	.30	.27	.29	.18	.18	.19	.23	.23	.256
November	.43	.32	.31	.28	.29	.19	.19	.21	.26	.23	.271
December	.42	.32	.31	.28	.30	.17	.18	.22	.27	.25	.272
Yearly aver.	.310	.389	.309	.283	.317	.243	.181	.184	.247	.245	.271

CHICAGO OATS PRICES—Continued.

	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	Ten-yr. av.
January	.23	.24	.42	.33	.39	.30	.31	.35	.50	.50	.357
February	.23	.25	.43	.35	.43	.31	.30	.39	.51	.53	.373
March	.24	.26	.43	.33	.40	.31	.30	.41	.53	.54	.375
April	.24	.27	.43	.34	.39	.31	.32	.44	.53	.55	.382
May	.23	.29	.45	.36	.42	.30	.33	.47	.55	.59	.399
June	.24	.28	.44	.39	.41	.32	.38	.45	.52	.56	.399
July	.23	.33	.43	.39	.42	.31	.35	.44	.56	.49	.395
August	.22	.36	.28	.35	.36	.27	.31	.49	.48	.40	.352
September	.22	.35	.27	.37	.32	.28	.32	.54	.49	.43	.359
October	.22	.36	.29	.37	.30	.29	.34	.50	.48	.40	.355
November	.22	.41	.29	.36	.31	.30	.34	.47	.49	.39	.358
December	.22	.45	.31	.36	.30	.31	.34	.49	.49	.43	.370
Yearly aver.	.229	.321	.373	.359	.371	.301	.329	.454	.511	.484	.373

CHICAGO OATS PRICES—Continued.

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
January	.47	.32	.49	.33	.38	.54	.47	.56	.82	.65	.503
February	.48	.31	.52	.34	.39	.57	.46	.54	.87	.60	.508
March	.45	.30	.53	.33	.39	.57	.45	.59	.91	.64	.516
April	.43	.31	.57	.35	.38	.56	.44	.67	.86	.71	.528
May	.40	.34	.54	.39	.40	.53	.44	.67	.76	.71	.518
June	.38	.40	.52	.41	.39	.48	.39	.66	.76	.71	.510
July	.42	.43	.50	.40	.37	.54	.40	.77	.75	.76	.534
August	.36	.41	.33	.41	.41	.53	.44	.66	.70	.76	.501
September	.33	.44	.33	.42	.48	.37	.46	.59	.72	.70	.484
October	.31	.46	.32	.39	.47	.38	.50	.59	.69	.73	.484
November	.31	.46	.31	.38	.49	.39	.54	.66	.73	.76	.503
December	.31	.47	.32	.39	.48	.42	.50	.76	.71	.84	.520
Yearly aver.	.388	.388	.440	.379	.419	.490	.458	.644	774	.714	.509

CHICAGO WHEAT PRICES.

	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	.98	.76	.66	.96	1.11	1.40	.87	1.95	1.63	1.14	1.146
February	.97	.75	.72	1.08	1.11	1.25	.84	1.90	2.01	1.16	1.179
March	1.01	.77	.73	1.08	1.10	1.16	.91	2.04	1.95	1.13	1.188
April	1.04	.86	.72	1.03	1.19	1.03	.96	1.93	1.96	1.07	1.179
May	1.06	.94	.71	.95	1.22	1.05	1.77	2.14	2.02	1.13	1.299
June	1.04	.63	.72	.94	1.56	1.06	1.19	1.96	1.92	1.16	1.218
July	1.00	.62	.79	.92	2.02	1.03	1.00	1.49	1.47	1.31	1.165
August	.83	.67	.87	.86	1.91	1.17	1.41	1.75	1.72	1.38	1.257
September	.85	.69	.81	.94	1.87	1.24	1.78	1.79	1.54	1.23	1.274
October	.83	.71	.87	1.05	1.58	1.22	1.89	1.90	1.29	1.02	1.236
November	.77	.66	.77	1.04	1.76	1.13	1.89	1.76	1.12	.89	1.179
December	.74	.64	.83	1.08	1.52	.92	1.85	1.46	1.14	.86	1.104
Yearly aver.	.927	.725	.767	.994	1.495	1.138	1.361	1.839	1.647	1.123	1.202

CHICAGO WHEAT PRICES—Continued.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Ten-yr. av.
January	.79	1.14	1.23	1.23	1.22	.89	.99	1.28	1.06	.83	1.066
February	.81	1.24	1.24	1.23	1.19	.85	1.02	1.29	1.05	.89	1.081
March	.58	1.24	1.21	1.20	1.19	.91	1.01	1.25	1.08	.92	1.059
April	.80	1.29	1.25	1.19	1.24	1.00	1.02	1.43	1.10	.89	1.121
May	.95	1.27	1.48	1.29	1.23	1.01	1.03	1.62	1.10	.97	1.195
June	1.10	1.26	1.45	1.22	1.20	.96	1.05	1.48	.97	1.04	1.173
July	1.12	1.20	1.25	1.18	1.14	1.12	.96	1.42	.95	.99	1.133
August	1.09	1.04	1.37	1.22	1.02	1.21	.89	1.14	.99	.86	1.083
September	.99	1.11	1.21	1.10	.97	1.13	1.02	1.13	.87	.94	1.047
October	1.06	1.22	1.13	1.04	.89	1.11	1.10	1.10	.81	1.12	1.058
November	.81	1.23	1.07	1.01	.88	1.08	1.11	1.08	.82	1.16	1.025
December	1.06	1.19	1.14	1.12	.90	.98	1.19	1.09	.83	1.29	1.079
Yearly aver.	.930	1.202	1.252	1.169	1.089	1.020	1.032	1.275	.969	.992	1.093

CHICAGO WHEAT PRICES—Continued.

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	Ten-yr. av.
January	1.25	.98	1.30	.99	.92	.79	.81	.79	.77	.96	.956
February	1.23	.98	1.27	1.08	.93	.77	.81	.75	.77	1.01	.960
March	1.21	1.01	1.30	1.07	.88	.77	.79	.77	.76	1.00	.956
April	1.11	1.02	1.35	1.07	.85	.85	.76	.80	.77	.91	.949
May	1.15	1.04	1.27	1.11	.90	.88	.76	.85	.86	.86	.968
June	.97	1.10	1.30	1.06	.87	.87	.74	.81	.82	.83	.937
July	.92	1.14	1.30	1.01	.82	.88	.77	.70	.82	.81	.917
August	.89	1.29	1.09	1.02	.80	.84	.76	.68	.88	.78	.903
September	.91	1.28	1.01	.96	.76	.82	.74	.69	1.45	.79	.941
October	.98	1.36	.95	.93	.76	.88	.72	.71	1.11	.80	.920
November	1.06	1.28	.93	.96	.73	.87	.75	.74	1.09	.80	.921
December	1.01	1.27	.93	.97	.73	.86	.77	.77	1.01	.79	.911
Yearly aver.	1.057	1.145	1.175	1.019	.829	.840	.765	.755	.926	.862	.936

CHICAGO WHEAT PRICES—Continued.

	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	.76	.91	.87	.75	.61	.55	.62	.83	1.00	.71	.761
February . . .	.76	.95	.88	.74	.58	.54	.67	.80	1.02	.72	.766
March	.79	1.01	.84	.76	.58	.57	.65	.80	1.03	.70	.773
April	.85	1.09	.81	.79	.61	.62	.66	.81	1.12	.73	.809
May	.95	1.03	.83	.72	.57	.73	.62	.83	1.51	.74	.853
June	.89	.96	.83	.65	.59	.77	.60	.75	.98	.74	.776
July	.90	.92	.78	.60	.55	.68	.58	.74	.77	.72	.724
August	.99	1.00	.77	.60	.55	.65	.58	.91	.70	.72	.747
September . . .	1.00	.95	.73	.66	.53	.60	.63	.93	.65	.72	.740
October	1.00	.96	.72	.63	.54	.61	.73	.94	.66	.72	.751
November . . .	.95	.94	.71	.61	.57	.59	.83	.96	.67	.68	.751
December . . .	.90	.91	.71	.62	.58	.59	.84	1.01	.66	.67	.749
Yearly aver.	.895	.969	.790	.678	.572	.625	.668	.859	.898	.714	.767

CHICAGO WHEAT PRICES—Continued.

	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	Ten-yr. av.
January	.65	.74	.77	.70	.87	1.18	.86	.73	.97	1.06	.853
February . . .	.66	.73	.75	.77	.98	1.19	.83	.80	.95	1.16	.882
March	.66	.75	.78	.73	.96	1.15	.80	.80	.96	1.22	.881
April	.66	.72	.73	.75	.94	1.03	.85	.81	.94	1.32	.875
May	.66	.73	.74	.78	.97	1.00	.88	.93	1.05	1.40	.914
June	.77	.71	.74	.80	.99	1.07	.85	.96	.95	1.45	.929
July	.78	.67	.75	.80	1.03	1.03	.79	.98	.88	1.23	.894
August	.74	.72	.72	.84	1.07	.96	.74	.93	.93	1.18	.883
September . . .	.76	.70	.83	.84	1.14	.87	.74	1.02	1.01	1.08	.899
October	.74	.69	.72	.82	1.16	.88	.72	1.07	1.03	1.12	.895
November . . .	.72	.72	.74	.81	1.15	.88	.73	.93	1.05	1.12	.885
December . . .	.72	.76	.75	.82	1.17	.86	.74	1.02	1.03	1.17	.904
Yearly aver.	.710	.720	.752	.789	1.035	1.008	.793	.915	.979	1.209	.891

CHICAGO WHEAT PRICES—Continued.

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
January	1.19	1.02	1.04	1.02	.93	1.41	1.29	1.85	2.18	2.35	1.428
February . . .	1.19	.97	1.05	1.01	.94	1.57	1.24	1.76	2.19	2.30	1.422
March	1.19	.93	1.07	.98	.94	1.51	1.14	1.93	2.19	2.36	1.424
April	1.14	.94	1.11	1.00	.94	1.58	1.21	2.00	2.19	2.63	1.474
May	1.09	.97	1.17	1.00	.96	1.50	1.15	3.02	2.19	2.73	1.580
June	1.06	.95	1.13	1.00	.89	1.30	1.08	2.67	2.19	2.39	1.466
July	1.14	.92	1.07	.90	.89	1.31	1.18	2.55	2.28	2.26	1.450
August	1.12	1.01	1.01	.89	1.01	1.15	1.43	2.56	2.29	2.25	1.472
September . . .	1.07	1.01	.99	.92	1.16	1.08	1.56	2.24	2.26	2.54	1.483
October	1.03	1.06	1.01	.89	1.10	1.10	1.80	2.19	2.26	2.55	1.499
November . . .	.99	1.01	.96	.91	1.15	1.09	1.83	2.19	2.26	2.73	1.512
December . . .	1.00	1.01	.98	.92	1.22	1.17	1.66	2.19	2.32	2.92	1.539
Yearly aver.	1.100	.984	1.059	.954	1.010	1.314	1.381	2.262	2.240	2.500	1.480

PRICES DURING 1862-1878.

Prices during the 1862-1878 period are generally given in currency, and the currency of that period, unfortunately, had a fluctuating gold value, just as the British pound has today. In order that our readers may be able to convert the currency prices of 1862-1878 into terms of gold, we are publishing the following table:

AMOUNT OF GREENBACK CURRENCY NECESSARY TO BUY ONE DOLLAR IN GOLD IN UNITED STATES, FROM 1862-1878, INCLUSIVE.

	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.
January	$1.02	$1.48	$1.56	$2.16	$1.37	$1.35	$1.38	$1.36	$1.21
February	1.03	1.63	1.59	2.02	1.39	1.38	1.42	1.34	1.18
March	1.02	1.56	1.64	1.75	1.31	1.37	1.40	1.32	1.13
April	1.02	1.52	1.76	1.49	1.27	1.38	1.39	1.33	1.14
May	1.02	1.50	1.79	1.37	1.34	1.37	1.40	1.40	1.15
June	1.07	1.45	2.22	1.42	1.53	1.38	1.40	1.38	1.13
July	1.14	1.34	2.54	1.43	1.52	1.40	1.43	1.36	1.17
August	1.15	1.26	2.47	1.42	1.50	1.41	1.47	1.34	1.18
September	1.20	1.35	2.23	1.45	1.45	1.43	1.43	1.43	1.15
October	1.28	1.49	2.09	1.47	1.50	1.43	1.38	1.30	1.13
November	1.31	1.49	2.35	1.48	1.45	1.41	1.35	1.28	1.12
December	1.32	1.51	2.28	1.47	1.37	1.36	1.36	1.22	1.11

GREENBACK CURRENCY—Continued.

	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
January	1.11	1.10	1.13	1.11	1.13	1.13	1.06	1.02
February	1.12	1.11	1.14	1.12	1.14	1.14	1.06	1.02
March	1.11	1.11	1.17	1.13	1.16	1.15	1.05	1.02
April	1.11	1.12	1.18	1.13	1.15	1.13	1.07	1.01
May	1.12	1.13	1.18	1.13	1.16	1.13	1.07	1.01
June	1.13	1.14	1.17	1.12	1.17	1.13	1.07	1.01
July	1.13	1.14	1.16	1.10	1.14	1.12	1.06	1.01
August	1.12	1.14	1.15	1.10	1.14	1.11	1.05	1.00
September	1.14	1.14	1.14	1.10	1.15	1.10	1.04	1.00
October	1.14	1.14	1.10	1.10	1.16	1.11	1.03	1.00
November	1.11	1.13	1.09	1.11	1.15	1.09	1.03	1.00
December	1.10	1.13	1.11	1.12	1.14	1.08	1.03	1.00

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913.

Compiling the tables on pages 126-133 involved considerable work, but it is believed that for studying seasonal trends and normal relationships at different times of the year, these figures are very valuable. As a matter of interest, a few future contract prices are averaged. It will be noted that the future prices differ considerably from the cash prices until the date of the delivery month draws near, when the future and the cash prices become almost identical. Before the war, the future contract system worked very well, but during the war it was rather unsatisfactory. There is an interesting field of study in the seasonal trend of northern wheat (spring) as compared with red wheat (winter).

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913.

JANUARY.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
3	51.2		$6.32	$5.81	$8.94		$8.26		38.7		99.0	99.0
4	51.2		6.34	5.85	8.97		8.31		38.9		99.4	99.2
5	51.3		6.37	5.84	8.97		8.32		38.9		100.0	99.1
6	51.4		6.37	5.85	9.01		8.35		39.0		100.2	99.9
7	51.6		6.42	5.90	8.99		8.35		39.1		100.2	99.3
8	51.6		6.41	5.90	8.96		8.33		39.0		100.1	99.2
9	51.5		6.40	5.90	8.94		8.34		39.1		100.2	99.4
10	51.9		6.34	5.87	8.93		8.33		39.0		100.4	99.2
11	52.0		6.28	5.81	8.94		8.35		39.4		100.2	99.3
12	52.2		6.31	5.81	8.95		8.38		39.3		100.2	99.4
13	52.3		6.34	5.84	8.97		8.38		39.4		100.0	99.2
14	52.3		6.37	5.85	9.00		8.40		39.5		100.3	99.5
15	52.2		6.40	5.87	8.97		8.43		39.5		99.9	99.3
16	52.2		6.39	5.88	8.97		8.42		39.7		100.0	99.3
17	52.4		6.39	5.88	9.00		8.44		39.8		100.1	99.3
18	52.1		6.40	5.89	8.96		8.45		39.7		100.3	99.3
19	52.3		6.41	5.89	8.96		8.45		39.7		100.1	99.1
20	51.9		6.38	5.87	8.97		8.46		39.8		100.1	99.3
21	52.0		6.39	5.88	8.97		8.46		40.0		100.3	99.5
22	52.0		6.38	5.88	8.92		8.43		40.0		100.1	99.1
23	51.9		6.36	5.87	8.91		8.43		39.8		100.1	99.6
24	51.9		6.38	5.90	8.94		8.46		39.9		100.1	99.6
25	51.9		6.41	5.92	8.93		8.48		39.9		100.0	99.3
26	51.9		6.40	5.91	8.95		8.48		39.9		99.9	99.2
27	51.8		6.42	5.92	8.96		8.50		39.9		100.0	99.2
28	51.9		6.41	5.91	8.95		8.47		39.7		100.2	99.5
29	51.9		6.41	5.90	8.95		8.48		40.0		100.4	99.7
30	51.9		6.44	5.91	8.97		8.50		40.1		100.4	99.7
31	51.8		6.48	5.94	8.90		8.50		40.0		100.1	99.5
Av.	51.9		6.38	5.88	8.96		8.40		39.5		100.1	99.3

FEBRUARY.

1	51.6		6.49	5.95	8.89		8.49		39.9		100.0	100.2
2	52.0		6.48	5.95	8.95		8.54		40.1		100.2	100.4
3	52.4		6.47	5.97	8.96		8.54		40.2		100.3	100.4
4	52.8		6.49	5.99	8.97		8.54		40.4		100.6	100.6
5	52.9		6.52	6.00	8.95		8.53		40.4		100.6	100.9
6	52.7		6.53	6.03	8.96		8.52		40.6		100.7	101.0
7	52.6		6.53	6.02	8.95		8.52		40.7		101.0	101.1
8	52.5		6.56	6.08	8.92		8.51		40.7		100.9	101.0
9	52.6		6.56	6.07	9.02		8.56		40.8		101.0	101.2
10	52.5		6.60	6.12	8.98		8.54		40.9		101.0	101.3
11	52.4		6.63	6.16	8.98		8.55		40.8		101.0	101.3
12	52.4		6.61	6.13	8.96		8.53		40.8		100.9	101.1
13	52.4		6.62	6.13	8.94		8.52		40.8		100.7	101.0
14	52.5		6.61	6.13	8.96		8.53		40.9		100.5	101.0
15	52.7		6.62	6.15	8.96		8.52		40.9		100.9	101.3
16	52.7		6.64	6.17	8.94		8.51		40.8		101.0	101.4

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913—Continued.
FEBRUARY—Continued.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
17	52.7		$6.65	$6.18	$8.96		$8.53		40.7		100.7	101.1
18	52.8		6.67	6.18	8.95		8.53		40.7		100.3	100.8
19	52.7		6.67	6.19	8.96		8.55		41.1		100.5	101.0
20	52.7		6.68	6.21	8.95		8.54		41.1		101.3	101.6
21	52.8		6.69	6.21	8.96		8.56		41.1		101.3	101.8
22	52.7		6.71	6.23	8.98		8.56		41.1		101.4	101.8
23	52.9		6.74	6.25	8.99		8.56		41.1		101.4	101.3
24	53.0		6.73	6.26	8.98		8.56		41.2		101.6	101.7
25	53.1		6.75	6.27	9.00		8.58		41.3		101.3	102.0
26	53.1		6.76	6.29	9.00		8.58		41.5		101.4	102.1
27	53.4		6.72	6.28	9.03		8.62		41.7		101.5	102.0
28	53.3		6.80	6.33	9.04		8.64		41.6		101.4	102.0
Av.	52.7		6.63	6.14	8.96		8.52		40.9		100.9	101.2

MARCH.

1	53.2		6.79	6.32	9.04	9.36	8.50		41.2		101.3	101.2
2	53.4		6.79	6.33	9.07	9.37	8.60		41.6		101.1	101.3
3	53.2		6.80	6.34	9.07	9.39	8.60		41.3		101.0	101.0
4	53.4		6.80	6.34	9.08	9.39	8.61		41.0		100.7	100.8
5	53.6		6.80	6.35	9.13	9.41	8.64		41.1		100.1	100.4
6	53.6		6.87	6.39	9.17	9.45	8.66		41.2		99.9	100.3
7	53.5		6.90	6.43	9.13	9.45	8.68		41.0		99.6	99.7
8	53.8		6.89	6.40	9.15	9.42	8.69		41.2		99.3	99.2
9	53.8		6.96	6.45	9.20	9.47	8.72		41.1		99.0	99.0
10	54.1		6.98	6.45	9.15	9.44	8.69		41.1		99.3	99.6
11	54.1		6.97	6.48	9.14	9.43	8.71		40.9		99.2	99.7
12	54.3		7.01	6.52	9.16	9.44	8.72		40.9		99.5	99.9
13	54.5		7.03	6.52	9.17	9.45	8.75		40.9		99.4	99.8
14	54.5		7.00	6.52	9.18	9.47	8.77		41.1		99.9	100.1
15	54.5		7.01	6.52	9.16	9.44	8.76		40.8		99.9	99.8
16	54.2		7.02	6.53	9.19	9.41	8.76		40.7		99.7	99.6
17	54.4		7.05	6.54	9.18	9.42	8.77		40.5		99.6	99.7
18	54.1		7.05	6.55	9.18	9.42	8.77		40.5		99.6	99.6
19	54.5		7.06	6.57	9.17	9.42	8.78		40.9		99.8	99.7
20	54.4		7.06	6.54	9.17	9.40	8.78		41.0		99.7	99.7
21	54.2		7.10	6.61	9.18	9.39	8.81		40.9		99.5	99.5
22	54.6		7.10	6.62	9.20	9.40	8.84		40.9		99.4	99.6
23	54.8		7.11	6.63	9.22	9.41	8.84		40.8		99.4	99.7
24	55.0		7.11	6.64	9.23	9.40	8.81		40.8		99.8	99.8
25	55.2		7.14	6.66	9.21	9.41	8.82		40.7		99.9	100.0
26	55.2		7.19	6.70	9.26	9.44	8.85		40.8		100.1	101.4
27	55.3		7.26	6.76	9.32	9.49	8.94		40.9		100.2	101.4
28	55.3		7.29	6.79	9.32	9.51	8.95		40.9		100.3	101.4
29	55.5		7.31	6.81	9.28	9.49	8.92		40.9		100.0	101.0
30	55.7		7.28	6.77	9.28	9.44	8.88		41.1		99.9	101.0
31	55.9		7.29	6.77	9.28	9.47	8.91		41.1		100.5	100.7
Av.	54.5		6.99	6.55	9.18	9.43	8.76		41.0		99.9	100.2

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913—Continued.

APRIL.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
1	55.6		$7.33	$6.80	$9.28	$9.47	$8.91		41.3		100.7	101.3
2	56.0		7.33	6.82	9.25	9.46	8.91		41.3		100.5	100.1
3	56.1		7.31	6.79	9.23	9.44	8.90		41.3		100.6	100.1
4	56.2		7.32	6.82	9.22	9.41	8.88		41.2		100.8	100.1
5	56.4		7.30	6.80	9.19	9.39	8.86		41.2		100.9	100.2
6	56.3		7.30	6.79	9.13	9.36	8.82		41.2		101.3	100.5
7	56.6		7.28	6.79	9.16	9.35	8.80		41.2		101.4	100.8
8	56.4		7.26	6.77	9.14	9.34	8.80		41.3		101.5	100.5
9	56.7		7.27	6.75	9.19	9.35	8.79		41.4		101.7	100.9
10	56.9		7.25	6.75	9.18	9.36	8.81		41.6		101.7	100.9
11	57.2		7.26	6.76	9.16	9.35	8.78		41.7		101.9	100.9
12	57.4		7.25	6.74	9.17	9.36	8.77		41.8		102.1	101.2
13	57.6		7.24	6.75	9.17	9.38	8.79		42.1		102.6	101.2
14	57.5		7.22	6.73	9.16	9.38	8.79		41.9		102.6	101.3
15	57.4		7.18	6.68	9.15	9.36	8.76		41.9		102.6	101.6
16	57.2		7.15	6.64	9.10	9.32	8.71		41.7		102.4	100.9
17	57.4		7.15	6.63	9.09	9.33	8.77		41.7		102.6	101.0
18	57.4		7.15	6.64	9.08	9.32	8.76		41.9		102.6	101.4
19	57.3		7.07	6.56	9.06	9.31	8.76		42.0		102.9	101.5
20	57.4		7.06	6.55	9.07	9.31	8.74		42.0		102.4	101.1
21	57.6		7.04	6.53	9.09	9.31	8.78		42.0		102.2	101.0
22	57.7		7.03	6.55	9.09	9.32	8.81		41.8		102.3	100.4
23	57.5		7.00	6.52	9.09	9.31	8.81		41.8		102.2	99.9
24	57.5		7.00	6.52	9.09	9.31	8.78		41.6		101.8	99.5
25	57.8		6.99	6.51	9.13	9.33	8.79		41.9		102.0	100.0
26	57.6		7.00	6.51	9.15	9.36	8.79		42.0		101.4	99.6
27	57.9		6.96	6.48	9.18	9.35	8.80		42.0		101.3	99.1
28	58.1		6.97	6.46	9.16	9.37	8.77		42.2		101.2	99.3
29	58.3		6.93	6.43	9.17	9.38	8.78		42.1		101.3	99.4
30	58.1		6.92	6.40	9.17	9.37	8.78		42.2		102.0	100.7
Av.	57.1		7.15	6.65	9.14	9.36	8.80		41.7		101.8	100.5

MAY.

1	58.5	52.3	6.88	6.36	9.18	9.36	8.82	8.96	42.5	35.5	102.6	100.5
2	58.9	52.3	6.86	6.33	9.18	9.36	8.83	8.97	42.6	35.6	103.1	101.2
3	58.9	52.2	6.85	6.33	9.19	9.36	8.84	8.98	42.2	35.4	103.8	100.8
4	58.9	52.0	6.86	6.34	9.25	9.39	8.88	8.99	42.5	35.3	104.2	101.6
5	59.2	52.2	6.89	6.38	9.27	9.41	8.90	9.03	42.8	35.5	104.6	102.0
6	59.3	52.2	6.91	6.40	9.23	9.39	8.91	9.01	42.9	35.4	104.8	102.0
7	59.6	52.2	6.87	6.36	9.25	9.39	8.89	9.00	43.0	35.5	104.7	102.2
8	59.6	52.1	6.88	6.38	9.26	9.40	8.93	9.04	43.0	35.5	104.8	102.5
9	59.6	52.3	6.89	6.40	9.27	9.41	8.98	9.07	43.1	35.6	105.0	102.8
10	59.8	52.3	6.91	6.40	9.26	9.40	8.97	9.06	43.3	35.6	105.4	102.7
11	60.2	52.5	6.95	6.44	9.29	9.41	8.97	9.08	43.6	35.9	105.4	102.9
12	60.2	52.6	6.94	6.44	9.31	9.41	8.99	9.08	43.7	36.1	106.0	103.1
13	60.3	52.7	6.94	6.45	9.32	9.42	9.02	9.09	43.5	36.0	106.6	103.7
14	60.4	52.5	6.96	6.44	9.33	9.45	9.04	9.11	43.5	35.9	106.7	103.6
15	60.5	52.5	6.93	6.41	9.33	9.45	9.03	9.10	43.4	35.8	106.6	103.7
16	60.4	52.5	6.92	6.39	9.31	9.45	9.04	9.09	43.3	35.8	106.5	103.6

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913—Continued.

MAY—Continued.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
17	60.9	52.6	$6.95	$6.43	$9.36	$9.47	$9.09	$9.13	43.5	35.9	106.4	104.0
18	60.8	52.4	6.93	6.42	9.31	9.46	9.06	9.12	43.5	36.1	106.8	104.4
19	61.0	52.6	6.89	6.37	9.28	9.43	9.06	9.11	43.6	36.2	106.9	104.6
20	60.7	52.6	6.89	6.39	9.26	9.42	9.05	9.10	43.4	36.2	107.2	105.0
21	61.1	52.7	6.91	6.38	9.26	9.42	9.07	9.10	43.7	36.3	107.7	105.2
22	61.3	52.8	6.91	6.37	9.27	9.42	9.05	9.10	43.9	36.5	108.8	106.0
23	61.2	52.7	6.88	6.34	9.27	9.40	9.05	9.09	44.0	36.5	108.3	105.4
24	61.4	52.7	6.86	6.31	9.24	9.40	9.08	9.10	44.0	36.4	108.7	105.6
25	61.4	52.8	6.83	6.29	9.26	9.40	9.12	9.11	44.2	36.6	109.2	106.0
26	61.9	52.9	6.82	6.29	9.30	9.44	9.13	9.15	44.4	36.7	109.3	106.1
27	61.2	52.9	6.84	6.31	9.31	9.44	9.14	9.18	44.3	36.7	108.7	105.7
28	60.3	52.6	6.84	6.31	9.30	9.45	9.16	9.20	44.3	36.4	107.9	105.5
29	60.4	52.6	6.82	6.29	9.31	9.47	9.19	9.22	43.3	36.3	107.8	105.4
30	60.4	52.7	6.84	6.30	9.32	9.48	9.20	9.24	43.1	36.4	106.8	104.9
31	60.5	52.7	6.86	6.31	9.33	9.49	9.22	9.24	43.1	36.4	106.4	104.2
Av.	60.3	52.5	6.89	6.36	9.27	9.42	9.02	9.09	43.4	36.0	106.4	103.8

JUNE.

1	60.1	53.2	6.86	6.34	9.28	9.47	9.19	9.22	43.2	36.5	105.8	105.0
2	60.4	53.5	6.85	6.32	9.27	9.43	9.18	9.20	43.1	36.7	105.5	105.4
3	60.5	53.5	6.84	6.30	9.26	9.42	9.20	9.21	43.1	36.6	105.3	105.4
4	60.3	53.6	6.83	6.30	9.27	9.44	9.18	9.21	43.3	36.8	105.2	104.8
5	60.1	53.5	6.81	6.26	9.29	9.45	9.19	9.23	43.3	36.6	105.1	104.8
6	59.9	53.6	6.84	6.30	9.35	9.50	9.29	9.31	43.3	36.5	105.0	105.1
7	60.1	53.8	6.88	6.33	9.35	9.55	9.30	9.36	43.0	36.5	105.1	105.5
8	60.0	53.9	6.92	6.37	9.36	9.56	9.32	9.38	43.2	36.6	104.5	105.9
9	60.3	54.0	6.93	6.38	9.40	9.57	9.35	9.42	43.4	36.6	104.8	105.5
10	60.1	54.1	6.94	6.39	9.39	9.58	9.39	9.44	43.0	36.7	104.6	105.4
11	59.9	54.1	6.95	6.40	9.41	9.58	9.43	9.45	42.9	36.4	104.2	104.8
12	60.1	54.2	6.96	6.41	9.40	9.58	9.43	9.47	43.0	36.6	103.9	104.6
13	60.1	54.3	6.95	6.40	9.40	9.58	9.46	9.47	43.0	36.7	103.3	104.4
14	60.0	54.2	6.95	6.41	9.40	9.59	9.44	9.47	42.9	36.7	102.6	104.1
15	60.0	54.3	6.95	6.40	9.38	9.59	9.44	9.48	43.5	36.9	102.6	103.9
16	60.1	54.7	6.99	6.44	9.41	9.61	9.46	9.52	43.6	37.3	103.1	104.5
17	60.2	54.8	6.95	6.43	9.43	9.60	9.48	9.52	43.5	37.3	102.2	104.4
18	60.2	54.8	6.97	6.45	9.47	9.64	9.51	9.57	43.5	37.5	102.4	104.0
19	60.3	54.8	7.03	6.49	9.46	9.66	9.53	9.60	43.8	37.6	102.1	104.7
20	60.4	54.8	7.08	6.52	9.47	9.67	9.54	9.58	44.0	37.8	100.8	105.2
21	60.6	55.1	7.09	6.54	9.48	9.66	9.53	9.57	44.3	38.2	100.0	105.6
22	60.5	55.1	7.07	6.51	9.44	9.63	9.51	9.55	44.1	38.4	99.5	105.7
23	60.2	54.9	7.06	6.49	9.46	9.62	9.53	9.52	43.8	37.9	99.5	105.9
24	59.7	54.7	7.08	6.50	9.46	9.65	9.56	9.56	43.2	38.1	99.2	105.5
25	59.8	54.7	7.08	6.49	9.48	9.66	9.58	9.57	43.4	38.0	99.0	106.2
26	60.0	54.8	7.09	6.51	9.48	9.65	9.58	9.57	43.5	38.1	98.7	106.5
27	60.6	55.3	7.09	6.54	9.50	9.67	9.60	9.58	43.8	38.4	99.6	106.7
28	60.7	55.4	7.10	6.53	9.48	9.64	9.59	9.56	43.5	38.6	99.9	106.5
29	60.7	55.4	7.11	6.54	9.51	9.66	9.59	9.58	43.3	38.5	99.3	107.0
30	60.6	55.6	7.15	6.55	9.52	9.68	9.60	9.59	42.9	38.6	98.6	106.5
Av.	60.2	54.4	6.98	6.43	9.41	9.58	9.43	9.46	43.4	37.3	102.4	105.2

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913—Continued.

JULY.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
1	60.9	55.6	$7.17	$6.58	$9.55	$9.70	$9.62		43.0	38.6	99.3	105.7
2	61.1	55.9	7.16	6.55	9.56	9.71	9.63		42.7	38.6	98.5	105.6
3	61.1	55.8	7.18	6.55	9.56	9.73	9.65		42.8	38.6	98.1	105.9
4	61.0	55.8	7.20	6.57	9.57	9.73	9.64		42.7	38.6	97.6	105.7
5	61.1	55.9	7.22	6.59	9.57	9.73	9.62		42.7	38.7	97.2	105.6
6	61.0	55.7	7.25	6.62	9.53	9.69	9.60		42.3	38.7	96.6	105.7
7	61.4	55.8	7.25	6.59	9.54	9.65	9.58		42.7	38.6	97.1	105.8
8	61.5	55.7	7.23	6.52	9.50	9.62	9.59		42.8	38.5	96.5	105.8
9	61.9	55.7	7.23	6.53	9.51	9.64	9.61		43.0	38.4	96.8	105.8
10	62.0	55.4	7.18	6.51	9.54	9.65	9.62		43.1	38.3	96.9	106.2
11	62.1	55.5	7.23	6.51	9.54	9.65	9.64		43.2	38.4	96.7	105.9
12	62.3	55.1	7.23	6.48	9.53	9.64	9.59		43.5	38.3	97.5	106.2
13	62.3	55.3	7.25	6.50	9.52	9.63	9.59		43.6	38.5	97.5	106.7
14	62.5	55.1	7.26	6.51	9.49	9.61	9.55		43.6	38.4	97.5	107.7
15	62.4	55.0	7.26	6.52	9.47	9.59	9.56		43.4	38.2	96.9	107.9
16	62.4	54.8	7.29	6.54	9.46	9.57	9.54		43.2	37.9	96.2	108.0
17	62.5	54.8	7.30	6.56	9.44	9.57	9.53		43.0	37.8	95.7	108.0
18	62.0	54.6	7.33	6.59	9.45	9.56	9.55		43.1	37.5	95.5	108.7
19	61.8	54.5	7.37	6.61	9.45	9.56	9.53		42.9	37.5	95.2	108.4
20	62.0	54.5	7.36	6.55	9.46	9.56	9.49		43.0	37.3	94.9	108.3
21	62.1	54.8	7.31	6.51	9.49	9.57	9.52		42.9	37.4	95.0	108.0
22	61.9	54.7	7.29	6.50	9.49	9.58	9.53		42.7	37.4	94.5	107.8
23	62.2	54.7	7.33	6.51	9.51	9.59	9.52		43.0	37.4	94.4	107.3
24	62.4	55.0	7.36	6.52	9.50	9.59	9.53		43.4	37.6	94.0	107.2
25	62.6	55.2	7.39	6.52	9.52	9.59	9.52		43.7	37.3	93.8	107.4
26	62.5	54.9	7.43	6.55	9.53	9.60	9.50		42.9	37.1	93.3	107.5
27	62.4	54.8	7.43	6.54	9.55	9.62	9.52		42.6	36.9	93.2	107.7
28	62.1	54.5	7.41	6.51	9.47	9.59	9.50		41.6	36.8	93.3	107.2
29	62.5	54.7	7.39	6.48	9.49	9.57	9.52		41.7	36.9	93.4	107.3
30	62.6	54.8	7.41	6.48	9.48	9.56	9.48		41.7	36.9	92.6	107.4
31	62.5	55.0	7.42	6.46	9.46	9.55	9.48		40.5	36.7	92.4	106.8
Av.	62.0	55.2	7.29	6.53	9.51	9.62	9.56		42.8	37.9	95.7	107.0

AUGUST.

1	62.9	55.3	7.41	6.45	9.47	9.54	9.44		38.6	36.7	92.1	107.1
2	63.4	55.8	7.41	6.47	9.52	9.56	9.52		38.3	37.0	91.9	107.1
3	63.5	55.9	7.41	6.45	9.51	9.58	9.50		38.6	37.3	92.4	107.2
4	63.1	55.8	7.43	6.45	9.53	9.57	9.53		38.2	37.3	92.3	107.2
5	63.1	55.6	7.44	6.44	9.52	9.58	9.56		38.1	37.2	92.4	106.8
6	63.1	55.3	7.45	6.40	9.51	9.58	9.56		38.2	37.1	92.2	107.1
7	63.1	55.2	7.44	6.39	9.51	9.56	9.57		37.8	37.1	92.1	107.3
8	63.7	55.5	7.41	6.37	9.46	9.55	9.56		38.0	37.4	92.1	108.0
9	63.7	55.7	7.43	6.39	9.47	9.54	9.53		37.9	37.4	92.1	107.9
10	63.8	55.6	7.43	6.39	9.47	9.54	9.51		37.9	37.3	91.7	106.9
11	64.1	55.8	7.41	6.39	9.51	9.54	9.52		38.1	37.3	91.8	106.5
12	64.3	55.9	7.41	6.43	9.54	9.55	9.50		38.0	37.4	91.7	105.8
13	64.3	55.8	7.42	6.45	9.55	9.57	9.54		37.8	37.2	91.4	105.7
14	64.2	55.8	7.40	6.41	9.54	9.57	9.54		37.8	37.3	91.8	103.9
15	64.4	55.7	7.40	6.40	9.56	9.59	9.57		37.8	37.4	91.5	102.9

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913—Continued.

AUGUST—Continued.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
16	64.2	56.0	$7.44	$6.41	$9.58	$9.61	$9.57		37.9	37.6	91.7	103.1
17	64.4	56.1	7.42	6.42	9.61	9.62	9.62		37.7	37.3	92.1	102.6
18	64.4	56.0	7.43	6.42	9.63	9.64	9.64		27.6	37.6	92.3	103.0
19	64.4	56.0	7.46	6.44	9.65	9.66	9.68		37.6	37.6	92.4	102.9
20	64.5	55.9	7.47	6.43	9.65	9.68	9.62		37.7	37.6	92.6	103.0
21	64.9	56.3	7.46	6.44	9.65	9.67	9.63		38.0	37.9	92.9	103.5
22	64.9	56.1	7.47	6.45	9.65	9.67	9.71		37.8	37.8	92.9	103.3
23	64.8	56.2	7.50	6.47	9.67	9.67	9.70		37.9	37.7	92.9	103.6
24	64.7	56.2	7.52	6.48	9.73	9.72	9.70		37.6	37.6	92.5	103.8
25	64.7	56.3	7.56	6.50	9.76	9.77	9.69		37.6	37.6	92.6	103.6
26	64.7	56.3	7.57	6.50	9.76	9.75	9.70		37.4	37.6	92.9	103.5
27	64.7	56.5	7.58	6.51	9.74	9.75	9.68		37.5	37.6	93.2	102.7
28	64.8	56.4	7.60	6.53	9.74	9.76	9.66		37.2	37.4	93.4	102.3
29	64.6	56.4	7.57	6.53	9.77	9.77	9.67		37.1	37.4	93.1	101.9
30	64.6	56.5	7.57	6.50	9.81	9.79	9.70		37.3	37.3	92.6	101.6
31	64.2	56.5	7.57	6.51	9.81	9.80	9.68		37.6	37.4	92.7	101.5
Av.	64.1	55.9	7.47	6.45	9.61	9.64	9.61		37.9	37.4	92.5	104.6

SEPTEMBER.

1	64.7	56.8	7.55	6.49	9.82		9.69		38.1		93.6	101.5
2	64.7	57.0	7.54	6.48	9.84		9.70		38.3		93.8	101.6
3	64.7	57.0	7.55	6.49	9.87		9.73		38.3		93.9	101.8
4	64.9	57.3	7.59	6.51	9.87		9.74		38.3		94.3	102.1
5	64.7	57.3	7.60	6.51	9.88		9.72		38.2		94.0	101.8
6	64.7	57.1	7.62	6.52	9.87		9.69		38.5		94.0	101.6
7	64.7	57.2	7.65	6.54	9.86		9.68		38.3		94.1	101.7
8	64.8	57.2	7.65	6.54	9.87		9.67		38.4		94.2	101.6
9	64.6	57.5	7.70	6.58	9.86		9.64		38.2		94.3	101.6
10	64.5	57.0	7.73	6.61	9.84		9.64		38.3		94.4	101.1
11	64.3	57.3	7.69	6.59	9.86		9.65		38.3		94.5	101.2
12	64.1	56.9	7.67	6.60	9.88		9.67		38.4		95.0	101.1
13	63.9	57.1	7.64	6.58	9.85		9.67		38.6		95.7	101.2
14	63.7	56.9	7.60	6.55	9.85		9.67		38.5		95.8	101.3
15	63.4	56.6	7.62	6.57	9.85		9.64		38.5		96.0	101.5
16	63.2	56.3	7.62	6.53	9.81		9.61		38.6		96.1	102.1
17	62.9	56.3	7.60	6.57	9.79		9.62		38.7		96.0	101.9
18	63.0	56.2	7.60	6.58	9.80		9.63		38.6		95.8	101.4
19	63.3	56.3	7.60	6.58	9.85		9.71		39.0		96.5	101.3
20	63.7	56.7	7.64	6.59	9.90		9.77		39.1		96.3	101.3
21	63.2	56.6	7.59	6.60	9.93		9.77		38.9		96.7	101.2
22	63.0	56.3	7.61	6.61	9.93		9.77		38.8		96.9	101.6
23	63.0	56.3	7.64	6.63	9.95		9.77		38.6		96.9	101.8
24	62.9	56.1	7.62	6.63	10.00		9.77		38.6		96.9	101.7
25	63.0	56.2	7.61	6.65	10.00		9.78		38.3		97.0	101.8
26	62.7	56.2	7.60	6.66	9.97		9.70		38.4		96.7	101.8
27	62.5	56.0	7.57	6.66	9.94		9.70		38.4		96.9	101.7
28	62.3	56.1	7.53	6.60	9.93		9.67		38.7		97.1	101.5
29	61.9	55.9	7.54	6.60	9.87		9.61		39.1		96.9	101.2
30	61.6	55.7	7.53	6.60	9.88		9.57		39.3		96.9	101.4
Av.	63.6	56.6	7.61	6.58	9.88		9.68		38.5		95.7	101.5

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913—Continued.

OCTOBER.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
1	61.4	55.6	$7.54	$6.60	$9.91		$9.56		38.3		97.2	100.8
2	61.3	55.8	7.52	6.59	9.94		9.58		38.3		97.3	100.8
3	61.3	55.6	7.53	6.60	9.95		9.55		38.2		97.2	100.5
4	60.9	55.4	7.53	6.59	9.93		9.60		38.3		97.6	100.6
5	61.1	55.4	7.54	6.61	9.93		9.62		38.5		97.3	100.3
6	61.1	55.4	7.50	6.58	9.92		9.59		38.4		97.3	100.3
7	60.8	55.1	7.47	6.54	9.88		9.60		38.4		97.5	100.4
8	61.0	55.3	7.43	6.51	9.91		9.50		38.3		97.8	100.5
9	61.1	55.6	7.43	6.53	9.92		9.47		38.6		98.0	100.6
10	61.1	55.4	7.40	6.51	9.88		9.43		38.4		98.2	101.0
11	61.0	55.5	7.39	6.50	9.90		9.43		38.4		98.1	101.1
12	61.2	55.6	7.37	6.48	9.86		9.39		38.3		98.5	101.4
13	61.1	55.7	7.31	6.47	9.82		9.42		38.3		9.90	101.5
14	60.4	55.6	7.30	6.44	9.87		9.42		38.4		98.8	101.7
15	60.3	55.5	7.29	6.45	9.89		9.39		38.1		99.2	101.7
16	59.8	55.3	7.26	6.44	9.86		9.35		37.9		98.9	101.7
17	59.6	55.0	7.24	6.40	9.81		9.29		37.8		99.3	101.3
18	59.9	55.0	7.25	6.39	9.82		9.24		37.8		98.8	101.1
19	60.2	55.2	7.25	6.39	9.89		9.20		38.8		98.9	101.1
20	60.2	55.2	7.18	6.33	9.90		9.15		37.8		99.0	100.8
21	60.2	55.2	7.17	6.30	9.92		9.13		37.8		99.2	100.8
22	59.8	55.0	7.13	6.28	9.90		9.09		37.8		98.9	100.9
23	60.0	54.9	7.09	6.26	9.86		9.09		37.8		98.9	99.6
24	59.7	55.0	7.08	6.20	9.84		9.11		37.8		98.7	99.1
25	59.7	55.1	7.05	6.16	9.82		9.10		37.8		98.9	99.0
26	60.0	55.2	7.00	6.13	9.81		9.07		38.0		98.9	99.0
27	60.0	55.3	6.99	6.12	9.78		9.04		37.8		99.0	98.8
28	59.8	55.2	6.99	6.12	9.77		9.07		37.7		98.7	98.7
29	59.5	55.1	6.95	6.12	9.73		9.08		37.4		98.8	98.8
30	59.4	55.0	6.91	6.05	9.72		9.03		37.6		98.4	98.7
31	59.5	55.0	6.88	6.02	9.68		9.00		37.6		98.1	98.7
Av.	60.4	55.3	7.26	6.38	9.85		9.31		38.2		98.4	100.2

NOVEMBER.

1	59.5	55.0	6.88	5.99	9.58		9.01		37.6		97.6	98.2
2	58.8	55.0	6.88	6.00	9.57		8.96		37.5		97.9	98.0
3	58.9	54.9	6.91	6.03	9.59		8.93		37.5		97.5	98.5
4	58.9	54.9	6.93	6.07	9.56		8.93		37.7		97.1	97.3
5	58.9	54.7	6.86	6.02	9.61		8.91		37.5		97.2	97.7
6	58.5	54.6	6.81	6.01	9.63		8.89		37.5		97.1	97.1
7	58.6	54.5	6.80	6.01	9.65		8.93		36.8		97.1	97.1
8	58.4	54.4	6.78	6.00	9.66		8.95		37.4		96.9	97.0
9	58.4	54.4	6.78	6.02	9.66		8.95		37.7		97.0	97.0
10	58.7	54.5	6.79	6.05	9.63		8.92		37.8		97.1	97.3
11	58.7	54.4	6.77	6.04	9.63		8.91		37.8		97.6	97.6
12	58.7	54.5	6.77	6.05	9.64		8.91		37.5		97.8	97.9
13	58.9	54.3	6.75	6.04	9.60		8.93		37.7		97.9	98.1
14	59.1	54.5	6.71	6.01	9.67		8.95		37.7		98.1	98.2
15	59.1	54.5	6.69	6.00	9.72		8.94		37.7		97.8	98.1

CHICAGO TEN-YEAR AVERAGE DAILY PRICES, 1904-1913—Continued.

NOVEMBER—Continued.

Day.	Cash Corn (cts.)	Dec. Corn (cts.)	Hog Top	Packing Sows	Cash Lard	Sept. Lard	Cash Ribs	July Ribs	Cash Oats (cts.)	Sept. Oats (cts.)	Wheat, No. 2 Red (cts.)	Wheat, No. 1 N'th'rn. (cts.)
16	59.4	54.5	$6.63	$5.97	$9.66		$8.97		37.8		97.9	98.4
17	59.2	54.6	6.62	5.97	9.63		8.98		37.8		98.0	98.6
18	59.0	54.2	6.61	5.95	9.63		8.98		37.7		97.8	98.4
19	58.6	54.2	6.57	5.91	9.61		8.92		37.6		97.3	98.4
20	58.2	54.1	6.55	5.91	9.60		8.95		37.2		97.4	98.2
21	58.2	54.1	6.52	5.88	9.54		8.94		37.7		97.1	98.0
22	57.9	53.9	6.49	5.84	9.59		8.93		37.6		96.8	97.9
23	57.7	53.9	6.46	5.82	9.48		8.88		37.7		96.6	98.2
24	57.7	53.8	6.43	5.80	9.43		8.84		37.6		97.0	98.1
25	57.5	53.8	6.38	5.74	9.41		8.83		37.6		97.2	98.3
26	57.1	53.8	6.40	5.75	9.42		8.84		37.7		97.3	98.1
27	57.1	53.9	6.43	5.79	9.45		8.85		37.7		97.2	98.1
28	56.9	53.7	6.45	5.79	9.50		8.84		37.5		97.0	98.1
29	56.7	53.6	6.51	5.84	9.53		8.82		37.5		96.8	97.9
30	56.5	53.6	6.53	5.86	9.57		8.84		37.5		96.9	98.0
Av.	58.3	54.3	6.66	5.94	9.58		8.92		37.6		97.3	97.9

DECEMBER.

1	56.0		6.54	5.88	9.49		8.87		37.6		97.2	98.3
2	56.1		6.55	5.90	9.45		8.86		37.8		97.6	98.3
3	55.4		6.53	5.92	9.44		8.84		38.1		97.6	98.3
4	55.9		6.52	5.92	9.43		8.82		38.3		97.9	98.5
5	56.8		6.55	5.93	9.44		8.80		38.6		97.9	98.8
6	57.0		6.57	5.96	9.42		8.80		38.6		98.3	98.9
7	57.7		6.56	5.97	9.39		8.80		38.7		98.5	98.5
8	56.7		6.51	5.95	9.52		8.77		38.8		97.9	98.6
9	56.4		6.52	5.98	9.53		8.76		38.7		98.1	99.1
10	56.0		6.54	5.96	9.53		8.78		38.8		97.8	98.4
11	56.0		6.55	5.96	9.43		8.77		38.7		97.8	98.2
12	56.0		6.53	5.98	9.41		8.74		38.8		97.9	98.5
13	55.8		6.50	5.96	9.42		8.75		39.0		98.1	98.6
14	55.6		6.42	5.93	9.44		8.76		38.6		98.2	98.4
15	55.6		6.45	5.93	9.43		8.76		38.9		98.0	98.6
16	55.4		6.44	5.92	9.41		8.74		38.9		98.8	98.9
17	55.7		6.47	5.93	9.38		8.74		38.8		99.4	99.2
18	55.6		6.46	5.94	9.34		8.64		38.8		99.6	99.5
19	55.7		6.46	5.92	9.35		8.65		38.8		99.6	99.4
20	55.8		6.44	5.91	9.37		8.69		38.9		99.9	99.4
21	55.6		6.48	5.93	9.41		8.69		38.7		99.7	99.4
22	55.5		6.48	5.92	9.40		8.68		38.5		99.4	99.4
23	55.5		6.51	5.94	9.43		8.70		38.6		99.4	99.2
24	55.5		6.53	5.96	9.45		8.71		38.6		99.6	99.3
25	55.4		6.54	5.98	9.42		8.69		38.5		99.8	99.6
26	55.2		6.57	6.01	9.40		8.69		38.5		99.4	100.6
27	55.1		6.59	6.04	9.34		8.66		38.6		99.8	100.8
28	54.8		6.60	6.07	9.25		8.61		38.7		100.1	99.7
29	54.4		6.61	6.10	9.27		8.60		39.0		100.0	99.6
30	54.9		6.63	6.11	9.26		8.60		38.7		100.1	99.9
Av.	55.7		6.52	5.96	9.42		8.73		38.6		98.8	99.1

DUN'S INDEX NUMBER FOR JULY 1—1860-1919.

The record is here given from 1860 to 1919, inclusive, July 1st of each year, usually the low point of the year.

	Breadstuffs	Meat	Dairy and Garden	Other Food	Clothing	Metals	Miscell'n's	Total
1860	$20.53	$ 8.97	$12.66	$ 8.89	$22.43	$25.85	$15.84	$115.19
1861	15.74	7.48	10.81	7.65	21.14	22.50	16.57	101.92
1862	18.05	7.15	13.40	10.98	28.41	23.20	17.29	118.51
1863	26.15	10.11	13.53	16.35	45.67	37.07	24.26	173.18
1864	45.61	15.68	26.05	27.30	73.48	59.19	31.65	278.98
1865	25.40	16.11	18.04	21.05	49.30	38.95	25.55	194.43
1866	31.47	17.15	23.47	20.82	45.37	41.76	27.92	207.97
1867	36.53	14.27	18.41	20.16	38.16	35.42	25.52	188.52
1868	38.41	13.21	23.61	19.72	35.69	27.38	24.78	182.82
1869	29.11	13.18	18.12	16.34	35.30	28.35	24.20	164.63
1870	25.32	14.16	16.11	13.30	31.48	26.61	21.78	148.78
1871	24.80	12.17	20.79	13.32	30.62	27.37	21.90	151.51
1872	22.17	11.05	16.01	14.84	32.42	32.64	21.31	150.47
1873	20.46	10.11	15.62	13.62	29.41	32.29	21.55	143.08
1874	25.65	11.56	19.14	13.67	27.26	25.25	19.58	143.13
1875	24.84	13.28	14.91	14.41	25.31	23.51	18.39	134.70
1876	18.77	10.72	15.91	12.91	21.74	20.45	15.95	116.47
1877	21.81	10.03	11.79	13.32	21.85	15.57	15.16	109.54
1878	15.67	8.18	10.60	11.34	19.83	15.78	14.83	96.26
1879	17.05	8.23	10.25	9.88	20.42	15.14	16.28	97.28
1880	17.46	9.23	12.59	11.53	21.98	18.70	17.13	108.65
1881	20.36	11.38	11.31	11.66	20.98	19.29	16.90	111.90
1882	25.49	13.74	14.68	11.62	21.20	19.83	16.65	123.23
1883	19.01	11.21	12.25	10.72	20.20	18.07	15.76	107.24
1884	17.87	11.17	11.36	9.32	19.01	16.27	14.68	99.70
1885	16.37	9.20	10.87	8.71	17.74	14.13	13.66	90.69
1886	15.31	8.90	10.24	8.57	18.06	14.46	13.66	89.22
1887	15.15	8.66	11.18	9.25	18.17	16.03	15.15	93.62
1888	16.98	9.41	11.84	9.91	17.44	15.36	14.15	95.13
1889	14.35	8.24	9.69	10.91	17.10	14.78	14.60	89.69
1890	14.86	8.03	10.71	9.74	17.26	15.50	15.41	91.54
1891	19.78	9.21	12.45	9.33	16.50	15.10	13.69	96.09
1892	17.42	8.70	10.40	8.73	15.64	14.82	14.25	90.10
1893	14.96	10.13	11.71	9.18	15.87	14.03	14.71	90.61
1894	15.11	9.38	10.39	8.47	13.86	12.01	14.04	83.29
1895	14.76	8.62	9.87	8.68	15.31	11.02	13.23	81.51
1896	10.50	7.05	7.87	8.52	13.60	13.23	13.52	74.31
1897	10.58	7.52	8.71	7.88	13.80	11.64	12.28	72.45
1898	12.78	7.69	9.43	8.82	14.66	11.84	12.52	77.76
1899	13.48	7.98	10.97	9.15	15.02	15.63	12.96	85.22
1900	14.89	8.90	10.90	9.48	16.32	14.83	16.07	91.41
1901	14.90	9.43	11.03	9.08	15.09	15.34	16.61	91.50
1902	20.53	11.62	12.55	8.74	15.53	16.08	16.82	101.91
1903	17.47	9.26	13.08	9.18	17.13	16.54	16.76	99.45
1904	18.24	9.03	10.64	10.40	16.51	15.42	16.91	97.19
1905	18.83	8.61	9.98	9.92	17.98	15.91	17.06	98.31
1906	17.92	9.67	12.59	9.64	19.17	16.64	19.55	105.21
1907	20.30	10.19	14.76	10.01	20.35	17.68	20.33	113.66
1908	22.82	10.19	12.55	10.46	17.23	16.54	18.35	108.17

DUN'S INDEX NUMBER FOR JULY 1—1860-1919—Continued.

	Breadstuffs	Meat	Dairy and Garden	Other Food	Clothing	Metals	Miscell'n's	Total
1909	$25.85	$ 9.95	$15.26	$10.62	$20.06	$16.42	$20.82	$119.02
1910	21.69	11.40	14.66	10.55	21.17	16.74	22.93	119.16
1911	21.28	9.41	17.47	11.38	19.32	16.58	22.66	118.13
1912	25.96	10.71	15.50	11.82	20.44	16.34	21.47	122.27
1913	21.19	13.09	13.03	10.21	20.53	16.51	21.73	116.31
1914	21.08	12.97	17.24	10.44	20.83	15.69	21.42	119.70
1915	26.46	12.13	15.56	10.72	20.90	16.60	22.56	124.95
1916	26.37	14.40	19.43	12.15	25.80	21.17	25.79	145.14
1917	53.91	18.82	26.44	14.22	36.52	32.39	29.61	211.95
1918	51.42	23.71	24.75	21.92	45.23	30.17	35.34	232.57
1919	51.72	25.66	26.16	23.34	45.62	25.75	35.43	233.70

DUN'S INDEX NUMBERS—MONTHLY RECORD, 1903-1919.

1903—January	17.10	9.52	14.61	9.41	15.93	17.18	16.57	100.35
February	17.66	9.18	14.33	9.36	16.26	17.09	17.01	100.92
March	17.86	9.60	13.53	9.40	16.50	17.08	17.05	101.06
April	16.72	9.65	13.51	9.34	16.40	16.56	17.05	99.26
May	16.38	9.75	13.16	9.23	16.54	16.58	16.90	98.56
June	17.03	9.21	13.24	9.21	16.79	16.54	16.88	98.93
July	17.47	9.26	13.08	9.18	17.13	16.54	16.76	99.45
August	17.37	8.97	11.80	9.26	17.17	16.48	16.80	97.89
September	17.47	8.92	12.35	9.24	17.13	16.54	16.87	98.54
October	16.69	8.83	12.60	9.17	16.81	16.36	16.89	97.37
November	16.61	7.99	13.58	9.72	16.68	16.17	17.05	97.82
December	16.34	7.95	14.57	9.64	16.82	16.03	16.84	98.22
1904—January	17.10	8.13	15.28	9.65	17.31	15.88	16.75	100.14
February	17.98	8.20	15.07	9.66	18.12	15.77	17.19	102.02
March	20.11	8.52	14.54	9.46	17.91	15.84	17.19	103.61
April	18.94	8.49	15.36	9.60	17.77	15.26	17.03	102.48
May	18.69	8.22	15.40	10.26	17.42	15.36	16.83	102.20
June	19.52	8.33	13.15	10.39	17.15	15.43	16.95	100.95
July	18.24	9.03	10.64	10.40	16.51	15.42	16.91	97.19
August	18.25	8.83	10.68	10.37	16.62	15.49	16.96	97.22
September	18.47	8.46	11.27	10.57	16.73	15.50	16.81	97.84
October	18.46	8.58	12.03	10.51	16.61	15.29	16.89	98.39
November	18.79	8.23	12.88	10.43	16.71	15.38	16.98	99.43
December	18.03	8.20	13.82	10.52	17.00	15.97	16.98	100.55
1905—January	18.27	7.95	13.94	10.69	16.31	16.18	16.93	100.31
February	18.08	8.03	13.65	10.81	16.88	16.17	17.40	101.04
March	18.07	8.41	14.10	10.66	16.91	16.33	17.42	101.93
April	17.71	8.59	12.26	10.57	16.98	15.66	17.39	99.20
May	16.40	8.72	11.81	10.50	17.05	15.76	17.29	97.56
June	17.97	8.89	10.77	10.47	17.38	15.78	17.46	98.75
July	18.83	8.61	9.98	9.92	17.98	15.91	17.06	98.31
August	17.27	8.71	12.12	9.92	18.45	16.14	17.22	99.84
September	16.66	9.00	12.18	9.89	18.91	16.38	17.25	100.30
October	16.85	8.35	12.86	9.73	18.77	16.57	17.27	100.42
November	18.03	8.44	14.80	9.62	18.83	16.68	17.42	103.85
December	17.29	8.51	14.91	9.83	19.13	16.97	18.65	105.31

DUN'S INDEX NUMBERS—MONTHLY RECORD, 1903-1919—Continued.

	Breadstuffs	Meat	Dairy and Garden	Other Food	Metals	Clothing	Miscell'n's	Total
1906—January	$16.55	$ 8.42	$14.39	$ 9.82	$19.31	$17.14	$18.80	$104.46
February	16.05	8.69	13.97	9.68	19.13	17.04	19.41	104.01
March	15.71	9.15	13.64	9.62	19.01	16.97	20.07	104.20
April	16.29	9.33	14.73	9.41	19.12	16.92	20.22	106.06
May	17.05	9.29	13.84	9.46	19.19	16.94	20.26	106.05
June	17.37	9.45	14.35	9.47	19.12	16.59	20.41	106.79
July	17.92	9.67	12.59	9.64	19.17	16.64	19.55	105.21
August	16.43	9.71	11.96	9.76	18.97	16.78	19.35	102.98
September	16.25	9.60	13.32	9.75	18.85	17.08	19.40	104.28
October	16.21	9.35	13.97	9.78	18.98	17.42	19.49	105.23
November	16.62	9.38	14.53	9.84	19.17	17.59	19.52	106.68
December	16.34	9.27	15.91	9.87	19.48	17.92	19.33	108.17
1907—January	16.07	9.35	14.96	9.76	19.63	18.08	19.38	107.26
February	16.38	9.69	14.41	9.80	19.79	18.16	19.10	107.36
March	17.47	9.67	15.72	9.76	20.00	18.13	19.13	109.91
April	16.98	9.62	14.79	9.81	19.99	17.37	19.30	107.89
May	18.16	9.64	14.46	9.82	20.09	17.52	19.24	108.95
June	20.08	9.98	15.41	10.10	20.25	17.68	20.12	113.65
July	20.30	10.19	14.76	10.01	20.35	17.68	20.33	113.66
August	19.87	10.09	15.45	10.04	20.28	17.66	20.31	113.72
September	22.48	10.15	15.01	10.18	20.52	17.62	20.08	116.07
October	22.94	9.66	15.64	10.44	20.16	17.29	19.97	116.14
November	21.98	9.22	15.84	9.62	19.93	17.17	19.83	113.63
December	21.29	8.92	17.16	10.15	19.38	16.93	19.40	113.27
1908—January	22.25	8.14	17.38	10.23	18.84	17.23	19.18	113.28
February	21.12	8.24	15.64	10.38	18.31	16.94	19.26	109.91
March	21.48	8.54	15.90	10.35	17.73	17.12	19.25	110.38
April	22.03	9.22	14.36	10.50	17.20	17.17	18.22	108.72
May	22.88	9.77	14.30	10.39	16.80	16.87	19.15	110.18
June	23.16	9.62	13.11	10.31	16.91	16.65	18.19	107.98
July	22.82	10.19	12.55	10.46	17.23	16.54	18.35	108.17
August	24.15	9.99	13.35	10.34	17.34	16.53	17.75	109.49
September	24.17	9.48	13.92	10.09	17.32	16.72	17.60	109.33
October	23.99	9.53	14.62	10.09	17.22	16.82	17.71	109.99
November	23.57	9.17	15.01	10.31	17.30	16.78	17.73	109.91
December	21.87	9.13	17.01	10.42	17.82	16.92	17.78	111.00
1909—January	21.48	9.14	18.10	10.39	18.02	16.91	17.78	111.84
February	22.90	10.27	15.64	10.50	18.27	16.93	18.91	113.45
March	23.96	8.86	15.21	10.41	18.89	16.65	21.41	115.42
April	24.12	9.24	16.14	10.68	18.63	16.38	21.63	116.86
May	25.69	9.02	15.70	10.62	19.07	16.35	21.78	118.26
June	26.78	9.49	16.05	10.65	19.58	16.45	22.00	121.02
July	25.85	9.95	15.26	10.62	20.06	16.42	20.82	119.02
August	23.70	9.61	15.76	10.81	20.92	16.61	20.58	118.02
September	22.00	9.54	16.01	10.74	21.06	16.94	20.65	116.96
October	21.53	9.45	16.26	10.97	21.52	17.20	21.36	118.30
November	21.63	9.35	17.50	11.07	22.14	17.30	21.75	120.77
December	22.31	9.54	19.16	11.05	22.13	17.43	21.77	123.41

DUN'S INDEX NUMBERS—MONTHLY RECORD, 1903-1919—Continued.

	Breadstuffs	Meat	Dairy and Garden	Other Food	Clothing	Metals	Miscell'n's	Total
1910—January	$23.83	$ 9.64	$18.90	$10.80	$20.63	$17.49	$22.12	$123.43
February	23.50	9.68	17.56	10.81	21.67	17.41	21.74	122.39
March	23.42	10.78	16.92	10.90	21.78	17.26	21.74	122.84
April	22.17	12.35	15.23	10.77	22.06	17.13	21.81	121.55
May	20.99	11.54	14.32	10.51	22.19	16.93	21.80	118.30
June	20.59	11.69	14.32	10.54	21.28	16.89	21.91	117.24
July	21.69	11.40	14.66	10.55	21.17	16.74	22.93	119.16
August	21.86	11.08	15.45	10.83	20.50	16.58	22.17	118.52
September	20.26	11.02	15.73	11.03	20.55	16.65	22.15	117.43
October	19.12	10.37	16.23	11.03	19.93	16.57	22.18	115.44
November	18.83	9.89	16.81	10.86	19.89	16.14	22.18	114.62
December	18.56	9.78	18.01	10.50	20.04	16.09	21.65	114.66
1911—January	18.01	9.48	18.07	11.19	19.64	16.51	22.17	115.10
February	18.17	9.96	16.46	11.25	19.59	16.59	22.20	114.25
March	17.76	10.14	14.58	11.01	19.78	16.74	22.24	112.28
April	18.17	9.74	13.63	11.07	19.35	16.71	22.22	110.92
May	19.97	9.36	14.75	11.28	20.02	16.69	22.16	114.25
June	20.50	9.63	14.70	10.98	18.84	16.61	22.08	113.37
July	21.28	9.41	17.47	11.38	19.32	16.58	22.66	118.12
August	21.69	9.90	19.24	11.60	18.77	16.52	22.02	119.77
September	22.14	10.08	18.00	12.05	18.50	16.50	22.04	119.33
October	23.82	9.61	16.50	12.33	18.63	16.30	22.06	119.29
November	24.86	9.21	19.19	12.59	18.19	16.29	21.61	121.97
December	23.12	8.92	22.17	12.61	18.19	16.36	21.53	122.92
1912—January	23.52	8.92	21.28	12.26	18.63	16.37	22.43	123.43
February	24.27	9.17	21.89	12.23	19.04	16.35	22.43	125.42
March	24.71	9.51	19.36	12.22	19.49	15.96	22.25	123.52
April	25.59	10.59	21.77	12.32	19.86	15.55	22.35	128.04
May	27.63	11.28	20.77	11.75	19.97	15.91	21.64	128.98
June	27.39	11.01	18.08	11.97	20.00	16.10	21.41	125.98
July	25.96	10.71	15.50	11.82	20.44	16.34	21.47	122.27
August	24.76	10.84	16.75	11.70	20.58	16.66	21.57	123.89
September	24.08	11.18	16.49	11.59	20.70	17.02	21.46	122.54
October	21.76	10.92	18.62	11.75	20.70	17.63	21.69	123.10
November	22.37	10.45	19.41	11.10	20.78	18.02	21.36	123.52
December	20.66	10.62	19.22	11.11	21.06	18.04	21.31	122.05
1913—January	19.88	10.91	17.92	11.07	21.01	17.94	22.08	120.83
February	19.56	11.52	16.65	10.87	20.83	17.85	22.42	119.72
March	19.59	13.04	16.14	10.73	21.14	17.37	22.42	120.46
April	19.96	13.47	15.31	10.16	20.93	16.92	22.42	119.21
May	20.67	13.18	15.11	10.12	20.80	16.75	21.67	118.32
June	21.27	12.96	16.52	10.25	20.70	16.76	21.57	120.05
July	21.19	13.09	13.03	10.21	20.53	16.51	21.73	116.31
August	21.63	13.08	14.91	10.26	20.25	16.52	21.84	118.51
September	22.97	12.78	16.60	10.57	20.50	16.74	21.86	122.05
October	22.58	13.05	17.93	10.70	20.94	16.76	21.92	123.90
November	22.61	12.21	19.97	11.06	21.07	16.75	21.80	125.50
December	23.00	12.05	20.45	11.01	20.81	16.59	21.79	125.73

DUN'S INDEX NUMBERS—MONTHLY RECORD, 1903-1919—Continued.

	Breadstuffs	Meat	Dairy and Garden	Other Food	Clothing	Metals	Miscell'n's	Total
1914—January	$21.96	$12.15	$20.08	$10.95	$20.66	$16.17	$22.54	$124.52
February	20.96	12.62	18.05	11.00	20.24	16.18	22.57	121.64
March	22.14	13.16	16.00	11.36	20.43	15.88	22.77	121.77
April	21.40	12.86	15.87	10.68	20.64	15.78	22.54	119.79
May	21.54	12.81	16.43	10.46	19.96	15.55	21.44	118.23
June	23.16	13.06	16.11	10.61	20.68	15.69	21.76	121.09
July	21.08	12.97	17.24	10.44	20.83	15.69	21.42	119.70
August	22.56	13.42	16.20	10.28	20.97	15.76	21.52	120.74
September	26.25	12.83	17.43	11.72	20.39	16.12	22.19	126.97
October	24.44	12.09	17.32	11.42	20.25	15.97	22.01	123.53
November	25.30	11.90	18.58	10.88	19.97	15.84	21.84	124.34
December	24.42	11.32	19.82	10.54	19.88	16.13	22.04	124.18
1915—January	25.89	10.70	19.28	10.60	19.72	16.16	21.79	124.16
February	29.05	10.60	17.46	10.47	20.11	16.29	21.65	125.66
March	28.60	10.73	15.58	10.82	20.22	16.34	21.85	124.15
April	28.86	11.07	15.58	10.76	20.48	15.94	22.38	125.09
May	29.80	11.66	15.46	10.70	20.78	15.83	22.38	126.64
June	28.35	12.51	15.13	10.59	20.74	16.13	22.50	125.99
July	26.46	12.13	15.56	10.72	20.90	16.60	22.56	124.95
August	25.99	11.38	16.03	10.97	21.40	16.61	22.67	125.07
September	24.97	11.44	16.25	10.85	21.46	16.95	22.74	124.68
October	23.54	11.46	18.76	10.71	21.92	17.06	23.17	126.66
November	24.02	11.39	20.61	10.95	22.32	17.27	23.87	130.46
December	25.16	10.55	20.97	11.22	22.80	18.32	24.10	133.14
1916—January	27.31	11.49	20.50	11.21	23.42	18.89	24.82	137.66
February	28.78	12.23	20.40	11.40	23.60	19.81	26.02	142.26
March	26.27	13.22	20.81	11.52	23.78	20.38	26.10	142.11
April	26.70	14.16	21.25	11.93	24.94	20.64	26.04	145.69
May	26.77	14.61	20.63	12.07	25.13	20.88	26.08	146.19
June	25.63	15.04	19.26	12.23	25.39	21.65	26.17	145.39
July	26.37	14.40	19.43	12.15	25.80	21.17	25.79	145.14
August	28.66	13.65	17.36	12.01	25.89	21.05	25.27	143.93
September	31.06	14.69	21.54	11.96	26.51	21.22	25.02	152.01
October	31.82	13.69	20.70	12.61	26.82	21.32	25.37	152.35
November	36.77	14.23	24.27	13.02	29.09	21.79	25.63	164.84
December	36.09	14.24	25.40	12.92	30.23	23.39	25.80	168.09
1917—January	36.15	15.02	25.16	12.92	30.08	24.45	25.76	169.56
February	37.86	16.12	27.37	12.98	30.38	25.02	26.51	176.27
March	40.95	17.03	31.50	13.16	30.38	25.97	27.21	186.24
April	43.81	18.89	29.30	13.28	30.67	26.68	27.35	190.01
May	55.36	19.38	30.72	13.71	32.08	28.44	28.72	208.43
June	53.50	19.81	33.60	13.86	33.02	29.88	28.88	212.58
July	53.91	18.82	26.44	14.22	36.52	32.39	29.61	211.95
August	64.07	17.74	21.24	15.21	36.91	32.57	31.01	218.77
September	54.68	19.35	22.75	15.55	38.61	32.65	31.39	215.01
October	55.51	19.12	25.80	16.08	39.43	31.15	32.55	219.67
November	55.68	18.16	25.88	18.72	40.44	29.84	32.00	220.75
December	53.99	19.00	27.02	18.76	40.74	28.41	32.22	220.17

DUN'S INDEX NUMBERS—MONTHLY RECORD, 1903-1919—Continued.

	Breadstuffs	Meat	Dairy and Garden	Other Food	Clothing	Metals	Miscell'n's	Total
1918—January	$54.27	$19.29	$27.41	$18.74	$40.88	$29.27	$32.29	$222.17
February	54.00	20.57	28.76	18.84	42.38	29.58	32.85	227.02
March	55.49	20.91	27.12	19.19	42.21	29.91	33.11	227.97
April	57.03	22.24	24.15	20.32	43.32	29.50	33.72	230.31
May	51.32	22.46	23.70	21.41	43.45	29.88	34.42	226.66
June	48.36	22.36	23.82	21.09	44.70	29.93	34.55	224.84
July	51.42	23.71	24.75	21.92	45.23	30.17	35.34	232.57
August	51.62	23.08	24.68	22.30	44.28	30.34	35.73	232.05
September	50.31	23.66	25.00	22.49	44.73	30.60	36.05	232.88
October	49.19	22.90	26.43	23.01	44.53	30.67	36.47	233.22
November	47.47	21.93	27.33	23.36	43.67	30.55	36.20	230.52
December	47.94	21.55	27.63	23.40	43.15	30.39	36.28	230.37
1919—January	48.59	22.19	27.13	23.96	43.19	28.76	36.29	230.14
February	44.99	21.53	24.70	23.40	42.24	28.58	34.58	220.05
March	44.63	22.02	22.93	23.84	40.46	28.21	34.91	217.03
April	49.03	22.89	24.44	23.82	39.17	25.63	34.96	219.97
May	48.87	24.36	26.12	22.72	39.56	25.79	34.75	222.19
June	51.23	24.71	26.90	22.80	41.79	25.55	34.95	227.97
July	51.72	25.66	26.16	23.34	45.62	25.75	35.43	233.70
August	54.75	25.10	26.87	23.69	48.55	26.60	36.05	241.65
September	53.23	23.79	26.29	23.47	47.92	26.53	37.09	238.34
October	48.00	20.08	27.98	23.38	49.85	26.57	39.97	235.86
November	47.52	19.14	28.73	24.15	51.40	26.71	40.89	238.57
December	48.28	20.00	30.09	24.63	52.28	27.72	41.61	244.63
1920—January	48.94	19.96	29.08	24.94	52.78	28.96	42.73	247.39
February	50.63	20.94	28.84	25.45	54.42	29.76	43.72	253.75

NOTE—Breadstuffs include quotations of wheat, corn, oats, rye and barley, besides beans and peas; meats include live hogs, beef, sheep and various provisions, lard, tallow, etc.; dairy and garden include butter, eggs, vegetables and fruits; other foods include fish, liquors, condiments, sugar, rice, tobacco, etc.; clothing includes the raw material of each industry, and many quotations of woolen, cotton and other textile goods, as well as hides and leather; metals include various quotations of pig iron, and partially manufactured and finished produces, as well as minor metals, coal and petroleum. The miscellaneous class embraces many grades of hard and soft lumber, lath, brick, lime, glass, turpentine, hemp, linseed oil, paints, fertilizers and drugs.

AVERAGE HOG PRICES AT CHICAGO.
(This includes heavy hogs, light hogs and pigs.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan.	$ 6.40	$ 4.90	$ 4.65	$ 5.40	$ 6.60	$ 4.40	$ 6.10	$ 8.55	$ 7.95	$ 6.25
Feb.	6.75	5.15	4.85	6.00	7.05	4.45	6.35	9.05	7.40	6.20
Mar.	7.30	5.35	5.15	6.30	6.65	5.00	6.70	10.55	6.85	7.10
Apr.	7.20	5.10	5.45	6.55	6.65	5.85	7.20	9.90	6.25	7.80
May	6.45	4.65	5.40	6.45	6.40	5.50	7.30	9.55	6.00	7.65
June	6.00	5.05	5.35	6.55	6.10	5.80	7.65	9.45	6.25	7.50
July	5.55	5.40	5.65	6.65	6.05	6.50	7.85	8.75	6.70	7.65
Aug.	5.45	5.30	5.95	6.25	6.00	6.55	7.75	8.35	7.30	8.25
Sep.	5.85	5.75	5.50	6.25	6.00	6.85	8.20	8.90	6.90	8.45
Oct.	5.55	5.40	5.25	6.40	6.15	5.95	7.75	8.50	6.45	8.75
Nov.	4.65	4.80	4.85	6.20	4.90	5.80	8.00	7.60	6.30	7.75
Dec.	4.55	4.50	4.90	6.25	4.70	5.65	8.35	7.65	6.40	7.40
Av.*	6.00	5.15	5.25	6.25	6.10	5.70	7.35	8.90	6.70	7.55

AVERAGE HOG PRICES AT CHICAGO—Continued.
(This includes heavy hogs, light hogs and pigs.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan.	$ 7.45	$ 8.30	$ 6.90	$ 7.20	$10.90	$16.30	$17.60			
Feb.	8.15	8.60	6.80	8.20	12.45	16.65	17.65			
Mar.	8.90	8.70	6.75	9.65	14.80	17.10	19.10			
Apr.	9.05	8.65	7.30	9.75	15.75	17.45	20.40			
May	8.55	8.45	7.60	9.85	15.90	17.45	20.60			
June	8.65	8.20	7.60	9.70	15.50	16.60	20.40			
July	9.05	8.70	7.25	9.80	15.20	17.75	21.85			
Aug.	8.35	9.00	6.90	10.30	16.90	19.00	20.00			
Sep.	8.30	8.85	7.25	10.70	18.20	19.65	17.45			
Oct.	8.20	7.65	7.90	9.80	17.15	17.70	14.35			
Nov.	7.75	7.50	6.65	9.60	17.40	17.70	14.20			
Dec.	7.70	7.10	6.40	9.95	16.85	17.55	13.60			
Av.*	8.35	8.30	7.10	9.00	15.10	17.45	17.85			

*This is the average as given in the Drovers' Journal Year-Books. It evidently is a weighted average based on varying receipts.

AVERAGE HOG PRICES AT SIOUX CITY.

	1917.	1918.	1919.	1920.	1921.	1922.
January	$10.53	$16.17	$17.03			
February	12.03	16.20	17.15			
March	14.20	16.61	18.43			
April	15.38	16.86	20.08			
May	15.56	16.89	20.23			
June	15.12	16.35	20.11			
July	14.81	17.29	21.23			
August	16.61	18.50	19.35			
September	17.82	18.25	16.32			
October	17.24	17.77	13.76			
November	17.10	17.33	13.77			
December	16.63	17.15	13.33			
Average*	15.25	17.11	17.57			

*This is a simple average and not strictly comparable with the Chicago averages, which are weighted on the basis of varying receipts.

CHICAGO AVERAGE PRICES OF LIGHT HOGS.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
January	6.20	4.80	4.50	5.35	6.55	4.35	5.95	8.45	8.00	6.05
February	6.50	4.95	4.75	5.95	7.05	4.35	6.25	8.85	7.55	6.10
March	7.10	5.25	5.10	6.30	6.65	4.95	6.60	10.40	7.00	7.05
April	7.05	5.05	5.40	6.50	6.65	5.80	7.15	9.70	6.45	7.70
May	6.30	4.60	5.40	6.45	6.40	5.45	7.10	9.60	6.10	7.50
June	5.95	5.05	5.35	6.55	6.10	5.75	7.50	9.65	6.30	7.35
July	5.70	5.45	5.70	6.70	6.05	6.40	7.85	8.90	6.80	7.65
August	5.70	5.45	6.05	6.35	6.00	6.45	7.95	8.55	7.40	8.35
September	6.05	5.85	5.55	6.40	6.00	6.70	8.25	8.10	7.05	8.65
October	5.70	5.40	5.35	6.35	6.15	5.75	7.65	8.70	6.30	8.60
November	4.70	4.70	4.85	6.20	4.95	5.55	7.85	7.65	6.00	7.70
December	4.40	4.40	4.90	5.20	4.65	5.45	8.20	7.65	5.85	7.30

CHICAGO AVERAGE PRICES OF LIGHT HOGS—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
January	7.45	8.25	6.90	7.15	10.70	16.20	17.45			
February	8.20	8.60	6.85	8.05	12.25	16.60	17.45			
March	9.00	8.75	6.75	9.50	14.60	17.25	19.15			
April	9.10	8.70	7.35	9.60	15.50	17.60	20.40			
May	8.60	8.50	7.65	9.70	15.60	17.60	20.70			
June	8.70	8.20	7.70	9.60	15.35	16.75	20.60			
July	9.10	8.70	7.55	9.80	15.00	17.70	22.10			
August	8.80	9.20	7.40	10.50	16.70	19.25	20.50			
September	8.75	9.05	7.55	10.80	18.15	19.90	17.90			
October	8.35	7.65	7.85	9.70	16.85	17.90	14.50			
November	7.60	7.35	6.50	9.20	17.10	17.55	14.35			
December	7.60	7.00	6.25	9.65	16.55	17.35	13.75			

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AVERAGE PRICES OF PIGS AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 5.90	$ 4.30	$ 4.15	$ 5.00	$ 6.15	$ 4.00	$ 5.15	$ 7.95	$ 7.75	$ 5.25
Feb. . . .	6.20	4.45	4.30	5.50	6.55	4.10	5.50	8.40	7.30	5.40
Mar. . . .	6.60	4.75	4.65	5.90	6.20	4.60	5.90	9.90	6.75	6.25
Apr. . . .	6.70	4.55	5.00	6.10	6.25	5.20	6.20	9.85	6.25	6.50
May . . .	6.00	4.25	5.05	6.05	6.05	4.80	6.30	9.30	5.80	6.35
June . . .	5.85	4.65	4.90	6.15	6.75	5.00	6.75	9.35	5.95	6.25
July . . .	5.85	5.20	5.40	6.40	5.80	5.40	7.15	8.90	6.00	6.80
Aug. . . .	5.80	5.30	5.80	6.10	5.80	5.30	7.40	8.90	5.90	7.20
Sep. . . .	5.55	5.40	5.15	6.10	5.85	5.50	7.50	9.00	5.70	7.00
Oct. . . .	5.25	5.00	4.90	6.15	6.10	4.70	6.80	8.55	5.15	7.20
Nov. . . .	4.50	4.40	4.65	6.05	4.60	4.50	7.05	7.40	4.90	6.30
Dec. . . .	4.20	4.10	4.70	6.00	4.30	4.40	7.50	7.35	5.10	6.35

AVERAGE PRICES OF PIGS AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 6.70	$ 7.60	$ 6.35	$ 6.50	$ 9.75	$14.30	$14.35			
Feb. . . .	7.55	8.20	6.45	7.25	10.90	14.60	15.40			
Mar. . . .	8.30	8.10	6.20	8.35	12.40	15.50	16.80			
Apr. . . .	8.10	8.10	6.50	8.40	12.90	16.15	17.50			
May . . .	7.75	8.00	6.85	8.75	13.40	16.65	17.85			
June . . .	7.90	7.70	6.90	8.35	13.70	16.30	17.50			
July . . .	8.35	8.20	7.10	9.25	13.85	17.00	19.75			
Aug. . . .	7.00	8.25	7.35	9.40	14.50	18.10	17.50			
Sep. . . .	6.65	7.90	7.25	9.00	16.25	18.25	16.25			
Oct. . . .	6.50	7.05	7.10	8.65	14.40	14.75	13.40			
Nov. . . .	6.45	6.00	5.75	8.15	16.30	14.00	13.20			
Dec. . . .	6.90	5.85	5.65	8.75	14.35	13.75	12.50			

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CHICAGO TOP HOG PRICES.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 7.10	$ 5.20	$ 5.00	$ 5.72	$ 7.05	$ 4.72	$ 6.70	$ 9.05	$ 8.30	$ 6.70
Feb. . . .	7.55	5.80	5.12	6.42	7.25	4.70	6.95	10.00	7.90	6.57
Mar. . . .	7.87	5.82	5.55	6.55	7.10	6.35	7.15	11.20	7.35	7.95
Apr. . . .	7.65	5.50	5.72	6.82	6.90	6.45	7.60	11.00	6.90	8.20
May . . .	7.15	4.95	5.65	6.67	6.65	5.90	7.55	9.85	6.50	8.05
June . . .	6.45	5.45	5.70	6.85	6.42	6.67	8.20	9.80	6.72	7.80
July . . .	6.10	5.90	6.17	7.00	6.65	7.10	8.45	9.60	7.55	8.50
Aug. . . .	6.20	5.80	6.45	6.75	6.72	7.10	8.32	9.70	7.95	9.00
Sep. . . .	6.45	6.37	6.20	6.82	7.00	7.60	8.60	10.10	7.80	9.27
Oct. . . .	6.50	6.30	5.80	6.85	7.00	7.20	8.40	9.65	6.90	9.42
Nov. . . .	5.50	5.25	5.25	6.50	6.32	6.40	8.45	8.70	6.72	8.30
Dec. . . .	4.90	4.87	5.35	6.55	5.30	6.15	8.75	8.10	6.60	7.85
Y'rly av.	6.62	5.60	5.66	6.62	6.70	6.36	7.93	9.73	7.27	8.14

CHICAGO TOP HOG PRICES—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 7.80	$ 8.60	$ 7.40	$ 8.10	$12.00	$16.90	$18.00			
Feb. . . .	8.70	8.90	7.25	8.90	13.55	17.70	18.15			
Mar. . . .	9.62	9.00	7.05	10.10	15.55	18.15	19.95			
Apr. . . .	9.70	8.95	7.90	10.10	16.50	18.10	21.15			
May . . .	8.85	8.67	7.95	10.35	16.65	18.30	21.55			
June . . .	9.00	8.52	7.95	10.15	16.17	17.35	21.60			
July . . .	9.62	9.30	8.12	10.25	16.30	19.40	23.60			
Aug. . . .	9.40	10.20	8.05	11.55	20.00	20.30	23.50			
Sep. . . .	9.65	9.75	8.50	11.60	19.70	20.95	21.00			
Oct. . . .	9.10	9.05	8.95	10.55	19.65	19.95	17.20			
Nov. . . .	8.30	8.25	7.75	10.35	18.10	18.60	15.50			
Dec. . . .	8.15	7.75	7.10	10.80	17.75	18.00	14.60			
Y'rly av.	8.98	8.91	7.83	10.23	16.82	18.64	19.63			

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Totals											

ST. LOUIS TOP HOG PRICES.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 7.00	$ 5.25	$ 5.02	$ 5.75	$ 6.87	$ 4.90	$ 6.75	$ 9.00	$ 8.27	$ 6.50
Feb. . . .	7.50	5.80	5.20	6.40	7.20	4.62	7.00	9.75	8.05	6.55
Mar. . . .	7.75	5.75	5.50	6.52	7.15	6.20	7.15	11.07	7.60	8.05
Apr. . . .	7.75	5.75	5.70	6.75	6.85	6.40	7.60	11.15	7.20	8.15
May . . .	7.20	4.90	5.60	6.62	6.65	5.90	7.60	9.80	6.40	8.10
June . . .	6.25	5.50	5.42	6.80	6.40	6.30	8.35	9.75	6.70	7.80
July . . .	6.10	5.75	6.10	7.00	6.45	7.00	8.50	9.70	7.35	8.35
Aug. . . .	6.20	5.72	6.35	6.75	6.80	7.10	8.25	9.45	7.92	9.05
Sep. . . .	6.35	6.25	6.35	6.75	6.85	7.50	8.02	10.10	7.85	9.30
Oct. . . .	6.25	6.30	5.60	6.80	7.00	7.20	8.50	9.45	6.90	9.32
Nov. . . .	5.25	5.25	5.15	6.50	6.35	6.25	8.25	8.90	6.70	8.35
Dec. . . .	4.87	4.85	5.30	6.50	5.30	6.25	8.70	8.10	6.65	7.92
Y'rly av.	6.58	5.50	5.60	6.59	6.65	6.30	7.90	9.68	7.29	8.12

ST. LOUIS TOP HOG PRICES—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 7.70	$ 8.65	$ 7.45	$ 8.10	$12.00	$16.95	$18.20			
Feb. . . .	8.60	9.00	7.25	8.70	13.00	17.60	18.35			
Mar. . . .	9.40	9.00	7.45	10.15	15.50	18.30	20.05			
Apr. . . .	9.55	9.00	7.85	10.05	16.40	18.15	21.15			
May . . .	8.85	8.80	7.95	10.25	16.55	18.10	21.20			
June . . .	9.00	8.55	7.90	10.05	16.15	17.35	21.75			
July . . .	9.55	9.32	8.25	10.25	16.00	19.15	23.50			
Aug. . . .	9.40	10.00	8.00	11.30	19.80	20.25	23.55			
Sep. . . .	9.50	9.60	8.40	11.50	19.65	20.75	20.50			
Oct. . . .	9.05	9.00	8.90	10.50	19.75	20.05	17.70			
Nov. . . .	8.30	8.00	7.70	10.40	18.05	18.60	15.60			
Dec. . . .	8.15	7.65	7.10	10.80	17.85	18.20	14.85			
Y'rly av.	8.92	8.87	7.85	10.17	16.72	18.62	19.70			

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Totals										

OMAHA TOP HOG PRICES.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 6.85	$ 5.00	$ 4.85	$ 5.50	$ 6.95	$ 4.50	$ 6.25	$ 8.70	$ 8.10	$ 6.40
Feb. . . .	7.20	5.60	5.00	6.20	7.05	4.42	6.60	9.55	7.57	6.37
Mar. . . .	7.55	5.40	5.25	6.37	6.90	5.92	6.95	10.85	7.10	7.77
Apr. . . .	7.40	5.17	5.40	6.55	6.50	5.95	7.30	10.80	6.55	7.90
May . . .	6.95	4.77	5.37	6.45	6.50	5.50	7.45	9.57	6.10	7.82
June . . .	6.25	5.27	5.35	6.60	6.20	6.10	7.85	9.55	6.45	7.60
July . . .	5.65	5.35	5.70	6.75	6.30	6.60	8.05	9.20	7.00	8.00
Aug. . . .	5.80	5.40	6.10	6.45	6.25	6.70	8.05	9.35	7.65	8.65
Sep. . . .	6.00	6.05	5.75	6.45	6.35	7.05	8.30	9.60	7.40	8.80
Oct. . . .	5.85	5.85	5.37	6.45	6.50	6.85	8.00	9.05	6.50	9.00
Nov. . . .	5.25	5.00	5.00	6.27	5.75	6.05	8.20	8.65	6.50	8.00
Dec. . . .	4.75	4.65	5.20	6.35	4.80	6.00	8.50	7.90	6.22	7.75
Y'rly av.	6.29	5.29	5.36	6.37	6.34	5.97	7.62	9.40	6.93	7.84

OMAHA TOP HOG PRICES—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 7.45	$ 8.45	$ 7.35	$ 7.80	$11.70	$16.75	$17.65			
Feb. . . .	8.25	8.60	6.95	8.55	13.30	17.30	17.75			
Mar. . . .	8.95	8.70	6.82	9.65	15.05	17.35	19.50			
Apr. . . .	9.05	8.72	7.50	9.00	16.20	17.45	20.85			
May . . .	8.65	8.40	7.60	9.90	16.20	17.50	20.80			
June . . .	8.67	8.32	7.60	9.80	15.75	16.85	21.10			
July . . .	9.15	8.95	7.65	10.00	15.65	18.85	22.85			
Aug. . . .	8.05	9.35	7.60	10.85	19.60	19.65	22.75			
Sep. . . .	8.75	8.90	8.15	11.10	19.45	20.40	19.25			
Oct. . . .	8.55	8.25	8.60	10.15	19.50	19.40	16.65			
Nov. . . .	7.85	8.05	7.35	10.15	17.90	18.15	15.35			
Dec. . . .	7.80	7.25	6.65	10.35	17.50	17.70	14.75			
Y'rly av.	8.43	8.50	7.48	9.77	16.48	18.11	19.10			

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Totals										

KANSAS CITY TOP HOG PRICES.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 6.97	$ 5.15	$ 5.00	$ 5.60	$ 7.00	$ 4.65	$ 6.45	$ 8.75	$ 8.10	$ 6.45
Feb. . . .	7.25	5.60	5.12	6.25	7.15	4.58	6.60	9.60	7.75	6.40
Mar. . . .	7.60	5.52	5.37	6.42	7.05	6.25	6.95	10.95	7.15	7.90
Apr. . . .	7.50	5.35	5.52	6.60	6.67	6.20	7.35	10.80	6.70	8.05
May . . .	7.00	4.87	5.50	6.50	6.52	5.67	7.50	9.67	6.20	7.95
June . . .	6.07	5.32	5.50	6.67	6.30	6.20	7.95	9.65	6.50	7.80
July . . .	5.85	5.70	5.87	6.87	6.40	6.95	8.12	9.35	7.10	8.20
Aug. . . .	6.15	5.50	6.25	6.40	6.32	6.95	8.05	9.55	7.70	8.82
Sep. . . .	6.20	6.07	5.92	6.60	6.50	7.20	8.37	9.85	7.50	8.90
Oct. . . .	6.17	5.97	5.40	6.57	6.60	6.85	8.17	9.35	6.60	9.05
Nov. . . .	5.35	5.25	5.00	6.37	5.90	6.20	8.27	8.60	6.62	8.00
Dec. . . .	4.80	4.70	5.17	6.45	5.02	5.97	8.60	7.90	6.40	7.90
Y'rly av.	6.41	5.42	5.47	6.44	6.45	6.14	7.70	9.50	7.03	7.95

KANSAS CITY TOP HOG PRICES—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 7.57	$ 8.50	$ 7.35	$ 8.00	$11.90	$16.95	$17.70			
Feb. . . .	8.50	8.75	7.02	8.67	13.45	17.75	18.00			
Mar. . . .	9.20	8.80	7.05	9.80	15.35	17.50	19.80			
Apr. . . .	9.25	8.80	7.65	9.90	16.30	17.75	21.00			
May . . .	8.77	8.50	7.80	10.05	16.45	17.70	21.10			
June . . .	8.80	8.45	7.85	10.00	15.90	17.00	21.35			
July . . .	9.25	9.15	7.80	10.10	16.10	19.15	23.40			
Aug. . . .	8.95	9.75	7.70	11.10	20.00	20.15	23.20			
Sep. . . .	9.10	9.45	8.25	11.15	19.45	20.65	20.10			
Oct. . . .	8.60	8.37	8.60	10.40	19.65	18.45	16.70			
Nov. . . .	8.00	8.10	7.50	10.15	17.85	18.25	15.60			
Dec. . . .	7.95	7.40	6.82	10.60	17.70	17.75	15.00			
Y'rly av.	8.66	8.67	7.62	9.91	16.67	17.42	19.41			

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Totals										

AVERAGE PRICES OF NATIVE BEEF CATTLE (900 to 1,900 POUNDS) AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 4.80	$ 4.65	$ 4.65	$ 5.00	$ 5.60	$ 5.30	$ 6.00	$ 6.20	$ 6.15	$ 6.85
Feb. . . .	4.60	4.50	4.75	5.05	5.55	5.40	5.85	6.35	6.15	6.60
Mar. . . .	4.75	4.60	5.00	5.15	5.55	6.00	6.10	7.35	6.20	7.20
Apr. . . .	4.90	4.65	5.75	5.05	5.65	6.50	6.10	7.55	6.10	7.65
May . . .	4.80	4.85	5.45	5.20	5.65	6.60	6.45	7.50	5.95	7.95
June . . .	4.90	5.60	5.25	5.20	6.20	6.90	6.45	7.50	6.05	8.00
July . . .	4.95	5.40	4.95	5.40	6.40	6.45	6.45	7.10	6.30	7.90
Aug. . . .	5.00	5.10	5.00	5.45	6.25	6.00	6.70	6.85	6.95	8.50
Sep. . . .	4.95	5.10	5.05	5.50	6.10	5.95	6.75	6.80	6.80	8.15
Oct. . . .	4.70	5.20	4.80	5.60	6.10	5.70	6.60	6.60	6.75	7.90
Nov. . . .	4.45	4.95	4.65	5.60	5.40	5.90	6.45	6.20	6.70	8.10
Dec. . . .	4.55	4.40	4.75	5.50	5.10	6.00	6.20	6.00	6.65	7.85

AVERAGE PRICES OF NATIVE BEEF CATTLE (900 to 1,900 POUNDS) AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 7.80	$ 8.45	$ 8.05	$ 8.35	$10.15	$12.10	$15.80			
Feb. . . .	8.25	8.30	7.50	8.35	10.50	12.00	15.95			
Mar. . . .	8.30	8.35	7.65	8.75	11.25	12.60	16.05			
Apr. . . .	8.15	8.50	7.70	9.10	11.75	14.70	15.85			
May . . .	8.00	8.40	8.35	9.50	11.90	15.40	15.00			
June . . .	8.15	8.60	8.80	9.85	12.15	15.85	13.55			
July . . .	8.25	8.80	9.20	9.25	12.35	16.05	15.60			
Aug. . . .	8.30	9.10	9.05	9.45	12.70	15.75	16.45			
Sep. . . .	8.50	9.35	8.95	9.40	13.10	16.00	15.50			
Oct. . . .	8.40	9.05	8.80	9.75	11.70	14.80	16.15			
Nov. . . .	8.25	8.60	8.70	10.15	11.10	15.05	15.10			
Dec. . . .	8.20	8.35	8.35	10.00	11.40	14.90	14.35			

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Totals										

AVERAGE PRICES FOR 1,200 TO 1,500-POUND STEERS AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
January	4.90	4.90	4.85	5.40	5.80	5.50	6.30	6.60	6.30	7.50
February	4.75	4.75	5.05	5.40	5.60	5.50	6.10	6.85	6.30	7.40
March	4.80	4.85	5.25	5.50	5.75	6.15	6.35	7.70	6.35	7.95
April	5.00	4.80	5.95	5.35	5.85	6.65	6.20	7.85	6.30	8.20
May	4.85	5.00	5.70	5.40	5.80	6.80	6.60	7.70	6.15	8.50
June	5.00	5.95	5.50	5.35	6.40	7.05	6.65	7.60	6.25	8.70
July	5.00	5.60	5.15	5.60	6.70	6.75	6.60	7.40	6.40	8.85
August	5.10	5.20	5.25	5.75	6.55	6.40	6.75	7.15	7.00	9.60
September	5.15	5.35	5.40	5.75	6.50	6.40	6.95	7.25	7.15	9.50
October	4.90	5.60	5.05	5.90	6.30	5.90	7.00	7.00	7.35	9.35
November	4.70	5.05	4.95	5.85	5.60	6.30	6.90	6.35	7.50	9.50
December	4.80	4.75	5.00	5.80	5.30	6.40	6.85	6.15	7.35	9.10
Yearly aver.	4.90	5.10	5.30	5.60	6.00	6.30	6.60	7.15	6.70	8.40

AVERAGE PRICES FOR 1,200 TO 1,500-POUND STEERS AT CHICAGO. Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
January	8.10	8.45	8.35	8.65	10.70	12.75	16.80			
February	8.30	8.40	7.90	8.70	11.25	12.90	17.00			
March	8.45	8.50	8.00	9.15	11.85	13.20	17.20			
April	8.35	8.65	8.05	9.55	12.35	15.35	16.85			
May	8.30	8.60	8.60	9.90	12.50	16.50	16.00			
June	8.35	8.80	9.00	10.35	12.75	17.00	14.50			
July	8.50	8.95	9.45	10.05	13.00	17.20	15.90			
August	8.55	9.35	9.25	10.40	13.90	17.25	16.75			
September	8.60	9.60	9.30	10.50	14.50	17.65	15.80			
October	8.70	9.35	9.05	10.05	13.50	16.60	16.50			
November	8.50	8.95	8.85	10.90	12.50	16.80	15.40			
December	8.40	8.80	8.75	11.05	12.00	16.75	14.50			
Yearly aver.	8.35	8.85	8.75	9.90	12.55	15.50	16.20			

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AVERAGE PRICES OF FAT COWS AND HEIFERS AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 4.05	$ 3.65	$ 3.35	$ 3.50	$ 3.80	$ 3.70	$ 4.10	$ 4.25	$ 4.55	$ 4.25
Feb. . . .	4.00	3.70	3.45	3.70	3.75	3.80	4.25	4.55	4.50	4.25
Mar. . . .	4.05	3.70	3.65	3.85	3.90	4.15	4.35	5.30	4.65	5.00
Apr. . . .	4.15	3.85	4.10	3.85	4.00	4.70	4.65	5.90	4.55	5.75
May . . .	4.15	4.00	4.10	3.90	3.95	4.90	5.00	5.55	4.60	6.20
June . . .	4.15	4.30	3.70	3.65	4.20	4.75	4.60	5.15	4.30	5.85
July . . .	3.95	4.20	3.50	3.45	4.15	4.15	4.40	4.65	4.45	5.55
Aug. . . .	4.00	3.80	3.40	3.50	3.80	3.90	4.10	4.20	4.60	5.70
Sep. . . .	3.90	3.35	3.35	3.55	3.70	3.75	3.90	4.00	4.40	5.40
Oct. . . .	3.80	3.10	3.30	3.65	3.50	3.65	3.85	3.95	4.25	5.15
Nov. . . .	3.70	2.90	3.50	3.75	3.35	3.50	4.00	3.85	4.05	5.10
Dec. . . .	3.60	2.75	3.60	3.70	3.30	3.70	4.00	3.90	4.00	5.05

AVERAGE PRICES OF FAT COWS AND HEIFERS AT CHICAGO.
Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 5.50	$ 6.10	$ 6.10	$ 5.85	$ 7.10	$ 8.90	$10.00			
Feb. . . .	5.80	6.35	5.65	6.00	7.50	9.00	10.60			
Mar. . . .	6.15	6.25	5.55	6.60	8.40	9.75	11.30			
Apr. . . .	6.25	6.45	5.75	6.90	8.90	10.30	11.30			
May . . .	6.35	6.90	6.40	7.80	9.10	10.90	11.25			
June . . .	6.20	6.65	6.75	7.65	8.60	10.70	10.35			
July . . .	6.00	6.85	6.55	6.85	8.10	9.70	10.10			
Aug. . . .	6.10	6.90	6.45	6.75	8.60	10.00	10.25			
Sep. . . .	6.25	6.60	6.30	6.50	8.40	9.00	9.40			
Oct. . . .	6.15	6.30	6.10	6.25	8.30	8.90	8.75			
Nov. . . .	5.90	6.05	5.65	6.60	8.20	8.65	8.40			
Dec. . . .	5.80	5.90	5.55	6.85	8.15	9.25	8.40			

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Totals										

AVERAGE PRICES OF CANNERS AND CUTTERS AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 2.25	$ 2.10	$ 1.70	$ 2.15	$ 2.10	$ 2.20	$ 2.50	$ 2.75	$ 2.85	$ 2.65
Feb. . . .	2.25	2.25	1.90	2.15	2.15	2.40	2.65	3.10	3.10	2.60
Mar. . . .	2.35	2.30	2.05	2.30	2.35	2.60	2.70	3.50	3.00	3.00
Apr. . . .	2.45	2.30	2.25	2.45	2.45	2.70	2.85	3.65	3.15	3.50
May . . .	2.30	2.15	2.25	2.40	2.40	2.80	3.00	3.50	2.90	3.75
June . . .	2.35	2.10	2.00	2.15	2.25	2.70	2.85	3.40	2.95	3.60
July . . .	2.20	2.00	1.80	1.85	2.20	2.50	2.75	3.10	2.80	3.50
Aug. . . .	2.15	1.75	1.70	1.75	2.05	2.50	2.65	2.80	2.75	3.60
Sep. . . .	2.05	1.60	1.90	1.70	2.00	2.40	2.65	2.85	2.80	3.60
Oct. . . .	2.00	1.55	1.90	1.80	1.95	2.35	2.65	2.80	2.65	3.50
Nov. . . .	1.80	1.50	1.85	2.05	1.85	2.30	2.70	2.85	2.55	3.60
Dec. . . .	1.80	1.40	1.90	1.90	1.90	2.35	2.75	2.85	2.50	3.60

AVERAGE PRICES OF CANNERS AND CUTTERS AT CHICAGO.
Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 3.90	$ 4.25	$ 4.25	$ 4.00	$ 5.45	$ 6.95	$ 7.25			
Feb. . . .	4.10	4.50	4.10	4.25	5.60	7.15	6.60			
Mar. . . .	4.35	4.50	3.85	4.80	6.35	7.35	6.50			
Apr. . . .	4.40	4.60	4.00	4.95	7.10	7.70	6.40			
May . . .	4.40	4.75	4.40	5.40	7.25	7.80	7.00			
June . . .	4.30	4.60	4.75	5.35	6.80	7.60	7.05			
July . . .	4.15	4.50	4.75	5.20	6.10	7.25	6.85			
Aug. . . .	4.20	4.85	4.60	5.05	6.40	7.00	6.75			
Sep. . . .	4.35	4.65	4.40	4.75	6.20	6.70	5.90			
Oct. . . .	4.25	4.40	4.25	4.45	6.00	6.60	5.85			
Nov. . . .	4.10	4.55	4.10	4.70	5.90	5.75	5.80			
Dec. . . .	4.05	4.40	3.95	5.15	6.05	6.75	5.60			

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Totals										

AVERAGE PRICES OF NATIVE CALVES AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 7.10	$ 5.85	$ 6.15	$ 7.00	$ 7.00	$ 6.75	$ 7.60	$ 8.60	$ 8.75	$ 8.75
Feb. . . .	7.15	6.35	6.50	6.40	6.50	6.60	6.85	8.65	8.40	7.50
Mar. . . .	6.50	5.65	5.70	6.25	6.60	6.20	7.00	9.00	7.40	8.00
Apr. . . .	5.75	4.60	5.10	5.60	6.00	5.50	6.30	7.85	6.60	7.40
May . . .	5.60	4.60	5.25	5.65	6.35	5.60	5.60	7.35	7.25	7.75
June . . .	6.20	4.90	5.85	5.80	6.15	5.80	6.50	7.85	7.60	8.00
July . . .	5.65	5.75	5.75	5.60	6.40	6.00	7.00	7.60	7.40	8.75
Aug. . . .	6.40	5.60	5.90	6.00	6.35	6.75	7.50	7.75	8.00	9.75
Sep. . . .	6.65	5.90	6.00	6.75	6.50	7.60	7.60	8.50	8.75	11.25
Oct. . . .	6.40	6.10	6.00	6.50	6.00	7.25	8.10	8.65	8.60	10.00
Nov. . . .	5.75	6.00	6.00	6.25	6.25	6.50	8.75	8.75	8.35	9.85
Dec. . . .	4.95	6.00	6.00	7.00	6.00	7.40	8.25	8.50	7.85	10.25

AVERAGE PRICES OF NATIVE CALVES AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 9.75	$11.00	$ 9.85	$10.15	$13.40	$15.35	$15.50			
Feb. . . .	9.85	10.75	10.35	10.65	12.65	14.15	15.75			
Mar. . . .	10.50	9.00	10.00	9.65	13.40	15.25	16.50			
Apr. . . .	8.50	8.85	8.40	8.75	12.50	14.50	15.35			
May . . .	9.25	9.50	9.15	10.40	13.25	13.50	14.50			
June . . .	9.75	9.40	9.60	11.25	13.40	15.55	18.75			
July . . .	10.40	10.60	10.25	11.40	13.00	16.70	18.00			
Aug. . . .	11.50	11.00	11.50	12.00	15.15	17.25	19.85			
Sep. . . .	11.25	11.40	11.25	12.40	15.00	18.60	20.50			
Oct. . . .	10.50	10.65	10.85	11.50	14.85	17.10	18.10			
Nov. . . .	10.35	10.35	10.15	11.85	13.50	16.80	17.40			
Dec. . . .	10.75	8.65	9.65	11.75	15.25	16.50	16.50			

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Totals										

CHICAGO AVERAGE PRICES OF GRASS-FED WESTERN CATTLE.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
July	3.90		4.20	4.40		4.90	5.15	5.60	5.65	7.55
August	3.85	3.80	4.05	4.40	5.10	4.80	5.50	5.50	5.60	7.60
September	3.70	3.85	3.90	4.30	4.70	4.70	5.15	5.45	5.50	7.70
October	3.55	3.50	3.70	4.45	4.35	4.70	5.20	5.35	5.70	7.50
November	3.40	3.50	3.55	4.50	4.25	5.05	5.35	5.25	5.85	7.35
December	3.50	3.80	3.75	4.40	4.20	4.90	5.20	4.95	5.75	7.10

CHICAGO AVERAGE PRICES OF GRASS-FED WESTERN CATTLE. Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
July	7.10	7.85	8.00	7.85	9.00	14.60	12.40			
August	7.40	8.10	7.90	8.15	10.00	14.90	12.25			
September	7.55	7.70	7.80	8.25	11.40	14.65	11.25			
October	7.35	7.50	7.65	8.15	10.60	14.35	11.25			
November	7.40	7.35	7.60	8.80	10.25	14.25	10.25			
December	7.25	7.25	7.25	9.40	10.00	14.00	10.00			

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Totals										

AVERAGE PRICES OF FEEDERS AND STOCKERS AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 3.60	$ 3.40	$ 3.65	$ 3.80	$ 4.10	$ 3.85	$ 4.55	$ 4.65	$ 5.15	$ 4.90
Feb. . . .	3.75	3.45	3.70	3.90	4.25	4.20	4.70	4.85	5.10	5.20
Mar. . . .	4.20	3.70	3.90	4.00	4.45	4.35	4.60	5.50	5.25	5.60
Apr. . . .	4.35	3.80	3.95	4.00	4.60	4.80	4.80	5.60	5.10	6.15
May . . .	4.10	4.00	4.20	4.15	4.55	4.60	4.85	5.50	4.95	6.25
June . . .	4.00	3.95	4.00	3.90	4.50	4.40	4.75	4.85	4.50	5.85
July . . .	3.70	3.50	3.40	3.65	4.20	4.15	4.50	4.45	4.35	5.40
Aug. . . .	3.45	3.35	3.30	3.75	4.00	4.10	4.30	4.50	4.45	5.70
Sep. . . .	3.25	3.30	3.45	3.90	4.05	3.90	4.35	4.50	4.55	5.65
Oct. . . .	3.20	3.25	3.35	3.75	3.85	3.95	4.30	4.70	4.40	5.60
Nov. . . .	3.10	3.15	3.25	3.70	3.80	4.00	4.25	4.60	4.50	5.85
Dec. . . .	3.05	2.90	3.35	3.80	3.75	4.20	4.40	4.70	4.60	5.50

AVERAGE PRICES OF FEEDERS AND STOCKERS AT CHICAGO.
Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 6.15	$ 7.10	*$6.85	*$7.00	$ 7.50	$ 8.80	$10.85			
Feb. . . .	7.10	7.25	* 7.00	6.90	7.75	9.00	11.50			
Mar. . . .	7.45	7.30	* 6.95	7.65	8.60	10.25	12.00			
Apr. . . .	7.50	7.55	* 8.05	7.80	8.75	10.50	12.65			
May . . .	7.40	7.80	* 7.95	8.15	8.90	10.75	12.40			
June . . .	7.15	7.35	* 7.75	7.90	8.50	10.90	11.15			
July . . .	7.25	7.20	* 7.70	7.00	7.90	10.25	10.15			
Aug. . . .	7.30	7.30	* 7.55	6.90	8.35	10.85	10.75			
Sep. . . .	7.35	7.15	* 7.40	6.70	8.50	10.90	9.90			
Oct. . . .	6.95	6.80	* 6.90	6.60	8.40	10.25	10.15			
Nov. . . .	6.75	6.70	* 6.75	6.65	8.75	10.00	9.75			
Dec. . . .	6.65	6.70	* 6.55	6.95	8.50	10.25	9.10			

*Interpolated from Kansas City market, on account of foot-and-mouth disease closing Chicago market.

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Totals										

AVERAGE PRICES OF YEARLING SHEEP AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 5.05	$ 5.10	$ 6.35	$ 6.20	$ 6.05	$ 5.60	$ 6.10	$ 6.75	$ 5.15	$ 5.50
Feb. . . .	5.60	4.95	6.60	6.00	6.10	5.70	6.00	7.70	5.25	5.25
Mar. . . .	6.40	4.95	6.35	5.75	6.40	6.50	6.30	8.40	5.15	6.00
Apr. . . .	6.05	5.25	6.00	6.05	6.60	6.25	6.65	8.00	4.75	6.70
May . . .	6.10	5.45	5.50	6.15	6.45	5.90	7.00	7.25	5.05	6.75
June . . .	5.35	5.40	5.40	6.40	6.65	5.25	6.40	6.20	4.55	5.35
July . . .	4.20	4.80	5.85	6.25	6.20	4.85	5.30	5.30	4.75	5.30
Aug. . . .	3.95	4.25	5.50	5.80	6.00	4.50	5.25	5.45	4.65	5.00
Sep. . . .	3.85	4.05	5.40	5.75	5.80	4.35	5.25	5.40	4.25	5.25
Oct. . . .	4.00	4.25	5.60	5.75	5.60	4.70	5.30	5.00	4.25	5.00
Nov. . . .	4.00	4.90	5.75	6.05	5.00	4.80	6.00	4.90	4.30	5.20
Dec. . . .	4.10	5.40	6.20	6.00	4.80	5.10	6.60	5.10	4.50	6.25

AVERAGE PRICES OF YEARLING SHEEP AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 7.10	$ 6.15	$ 7.25	$ 9.20	$12.50	$14.15	$13.50			
Feb. . . .	7.25	6.50	7.65	9.50	13.00	14.65	15.00			
Mar. . . .	7.50	6.50	8.40	9.75	13.50	15.25	17.05			
Apr. . . .	7.35	6.60	8.85	9.50	12.75	16.00	15.95			
May . . .	6.60	6.50	8.25	10.25	14.00	15.00	13.15			
June . . .	6.00	6.50	7.00	8.50	11.75	13.75	10.95			
July . . .	6.10	6.70	7.00	8.60	12.00	15.15	11.80			
Aug. . . .	5.50	6.50	6.75	8.20	12.00	14.90	11.75			
Sep. . . .	5.25	6.30	6.75	8.65	13.40	13.50	10.70			
Oct. . . .	5.35	6.25	6.85	8.50	13.50	11.75	10.80			
Nov. . . .	5.75	7.00	7.05	9.65	13.75	11.35	10.90			
Dec. . . .	6.25	6.90	7.70	10.90	13.75	11.75	14.00			

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Totals										

CHICAGO AVERAGE PRICES OF NATIVE LAMBS.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
January	5.40	5.40	7.10	7.25	7.25	6.70	7.25	8.20	6.00	6.35
February	6.00	5.25	7.30	6.80	7.20	6.60	7.40	8.50	5.80	6.00
March	6.45	5.15	7.00	6.40	7.45	7.10	7.50	9.30	5.75	7.00
April	5.85	5.30	6.20	6.20	7.95	7.10	7.75	9.00	5.20	7.50
May	5.95	5.60	6.00	6.40	7.80	6.40	7.80	8.15	5.60	7.85
June	5.75	5.55	5.75	6.70	7.10	5.40	7.30	7.35	5.75	6.60
July	5.35	5.90	6.00	6.60	7.05	6.00	7.40	6.80	5.90	7.15
August	4.85	5.40	7.10	7.00	6.90	5.95	7.25	6.40	6.00	6.75
September	4.80	5.10	7.00	7.00	6.90	5.25	6.70	6.40	5.40	6.75
October	4.80	5.05	7.25	6.90	6.80	5.40	6.40	6.55	5.50	6.50
November	4.80	5.55	7.00	7.00	6.00	5.75	7.15	6.15	5.35	6.90
December	5.00	6.20	7.25	7.15	5.65	6.60	7.60	6.00	5.60	7.50

CHICAGO AVERAGE PRICES OF NATIVE LAMBS—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
January	8.35	7.75	8.25	10.00	13.75	16.80	15.95			
February	8.25	7.40	8.60	10.25	14.05	16.25	17.00			
March	8.35	7.40	9.25	10.40	13.90	17.10	18.70			
April	8.10	7.10	9.00	9.75	14.00	18.60	17.40			
May	7.00	7.50	9.75	10.00	15.50	17.25	15.10			
June	6.50	7.75	9.00	9.15	15.00	16.65	13.70			
July	7.40	8.25	8.50	10.35	15.70	18.35	16.85			
August	7.25	7.90	8.80	10.40	15.35	17.25	16.60			
September	7.05	7.50	8.50	10.25	17.35	16.85	14.70			
October	6.95	7.60	8.65	10.00	17.25	15.15	14.85			
November	7.10	8.70	8.75	11.15	16.60	14.90	14.25			
December	7.40	8.15	8.90	12.60	16.35	14.50	16.00			

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Totals										

CHICAGO AVERAGE PRICES OF NATIVE SHEEP.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
January	4.00	3.85	5.10	5.35	5.10	4.75	4.85	5.50	3.95	4.15
February	4.55	3.85	5.50	5.00	5.15	4.90	4.85	6.10	4.10	4.10
March	5.25	4.30	5.50	5.20	5.35	5.75	5.30	7.15	4.65	5.20
April	4.80	4.70	4.95	5.35	5.45	5.65	5.50	7.10	4.05	5.75
May	4.60	4.90	4.60	5.45	5.70	5.40	5.90	6.40	4.35	6.00
June	3.95	4.30	4.70	5.30	5.80	4.80	5.25	5.00	3.65	4.35
July	3.40	3.80	5.10	5.15	5.25	4.10	4.65	3.95	3.75	4.00
August	3.15	3.60	5.00	4.90	5.25	3.90	4.40	4.00	3.30	3.85
September	3.10	3.50	4.75	5.10	5.15	3.65	4.55	4.20	3.75	3.90
October	3.10	3.60	5.20	4.80	4.75	4.05	4.40	4.00	3.55	3.75
November	3.05	4.05	5.20	5.00	4.40	4.20	4.50	3.75	3.25	3.85
December	3.15	4.50	5.25	5.00	4.10	4.30	4.90	3.85	3.40	4.35

CHICAGO AVERAGE PRICES OF NATIVE SHEEP—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
January	5.25	5.10	5.65	7.10	9.75	12.10	10.25			
February	5.75	5.55	6.35	7.60	11.10	12.30	11.20			
March	6.25	5.80	7.30	8.35	11.35	13.65	13.90			
April	6.35	6.00	7.60	8.25	11.85	15.00	14.30			
May	5.75	5.50	7.15	8.15	13.25	13.90	11.90			
June	4.85	5.00	5.40	7.25	9.90	13.25	9.15			
July	4.35	5.20	5.90	7.15	8.75	12.00	9.30			
August	4.25	5.25	6.10	7.15	9.75	12.65	9.20			
September	4.15	5.15	5.60	7.50	11.15	11.75	7.75			
October	4.40	5.20	5.85	7.40	11.50	10.00	7.60			
November	4.50	5.50	5.70	7.80	11.15	9.40	8.10			
December	4.80	5.35	6.10	8.90	11.55	9.15	9.40			

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Totals											

CHICAGO AVERAGE PRICES OF WESTERN LAMBS.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
January	5.60	5.70	5.25	7.30	7.30	6.80	7.40	8.40	6.25	6.55
February	6.20	5.55	7.50	6.75	7.30	6.75	7.55	8.75	6.10	6.25
March	6.70	5.45	7.10	6.35	7.60	7.40	7.70	9.50	6.15	7.50
April	6.40	5.90	6.95	6.35	8.05	7.35	8.10	9.15	5.60	8.10
May	6.35	5.85	6.40	6.60	7.80	6.85	8.40	8.50	5.95	8.60
June	5.30	5.65	6.00	6.80	7.20	5.80	7.75	7.65	6.30	7.20
July	5.20	6.40	6.35	6.85	7.05	6.40	7.80	7.15	6.40	7.45
August	4.90	5.45	7.05	7.20	6.90	6.20	7.40	6.80	6.50	7.25
September	4.85	5.15	7.00	7.20	6.90	5.40	6.85	6.85	5.80	7.15
October	4.75	5.20	7.00	7.05	6.80	5.65	6.55	6.70	5.80	6.90
November	4.50	5.45	6.85	6.90	6.05	5.90	6.90	6.30	5.50	7.25
December	4.65	6.20	7.25	7.10	5.70	6.75	7.50	6.20	5.85	7.90

CHICAGO AVERAGE PRICES OF WESTERN LAMBS—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
January	8.70	8.00	8.50	10.50	14.00	17.35	16.55			
February	8.65	7.70	8.80	10.95	14.00	16.75	17.80			
March	8.70	7.85	9.65	11.15	14.35	17.90	19.40			
April	8.50	7.90	9.75	10.50	14.50	19.60	18.20			
May	7.65	8.50	10.35	11.00	17.25	18.35	16.40			
June	7.00	8.10	9.30	9.75	15.50	17.00	14.40			
July	7.70	8.65	8.90	10.65	15.60	18.60	17.15			
August	7.60	8.25	9.00	10.90	15.85	17.85	16.90			
September	7.30	7.90	8.90	10.80	17.65	17.40	14.90			
October	7.15	7.65	8.80	10.25	17.50	15.50	15.15			
November	7.40	8.80	8.90	11.50	16.85	15.20	14.75			
December	7.70	8.40	9.15	12.85	16.55	14.75	16.70			

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Totals											

CHICAGO AVERAGE PRICES OF WESTERN SHEEP.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
January	4.25	4.05	5.20	5.45	5.20	4.90	4.95	5.65	4.10	4.40
February	4.75	4.25	5.60	5.25	5.25	5.10	5.00	6.75	4.25	4.25
March	5.55	4.70	5.50	5.35	5.65	5.90	5.25	7.65	4.75	5.40
April	5.30	5.25	5.20	5.35	5.85	5.70	5.70	7.65	4.25	6.00
May	5.05	5.30	4.90	5.65	5.85	5.10	6.20	6.70	4.50	6.20
June	4.45	4.60	4.75	5.60	6.00	4.60	5.30	5.15	4.00	4.70
July	3.55	3.90	5.10	5.35	5.40	4.10	4.70	4.30	4.05	4.50
August	3.30	3.70	4.90	5.05	5.40	4.10	4.60	4.25	3.60	4.20
September	3.25	3.50	4.70	5.20	5.20	3.80	4.75	4.25	3.90	4.30
October	3.25	3.70	5.00	5.00	4.90	4.10	4.30	3.90	3.70	4.10
November	3.05	4.10	5.00	5.10	4.35	4.10	4.55	3.70	3.50	4.15
December	3.25	4.65	5.25	5.15	4.25	4.35	4.95	4.00	3.60	4.55

CHICAGO AVERAGE PRICES OF WESTERN SHEEP—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
January	5.45	5.60	6.00	7.40	10.25	12.25	10.45			
February	6.00	5.80	6.55	7.80	11.35	12.45	11.50			
March	6.50	6.10	7.55	8.15	11.85	13.50	14.15			
April	6.60	6.35	7.90	8.15	12.15	15.85	14.70			
May	6.00	5.75	7.55	8.25	12.75	14.90	12.60			
June	5.15	5.50	5.65	7.40	10.15	13.60	9.45			
July	4.65	5.70	6.20	7.50	9.60	12.90	10.10			
August	4.45	5.75	6.30	7.60	9.50	13.25	10.25			
September	4.35	5.40	5.90	8.00	11.50	11.85	8.85			
October	4.60	5.40	6.20	7.60	11.90	10.55	8.70			
November	4.65	5.75	5.95	8.10	11.40	9.90	8.60			
December	5.10	5.60	6.35	9.10	11.40	9.60	9.80			

Jan.											
Feb.											
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Dec.											
Totals											

AVERAGE PRICES OF SHORT-RIB SIDES AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 8.78	$ 6.44	$ 6.44	$ 7.33	$ 9.00	$ 6.14	$ 8.37	$11.11	$10.31	$ 8.06
Feb. . . .	9.35	7.13	6.63	7.75	9.31	6.06	8.56	12.12	9.69	8.06
Mar. . . .	9.70	6.94	6.78	8.35	8.69	6.56	8.81	13.16	8.75	8.69
Apr. . . .	9.63	6.44	6.94	8.63	8.48	6.75	9.30	12.62	8.00	9.63
May . . .	9.30	6.38	7.06	8.88	8.75	7.00	10.06	12.06	7.69	10.06
June . . .	8.98	7.06	7.56	9.23	8.50	7.62	10.80	13.00	7.94	10.19
July . . .	8.20	7.37	7.80	9.30	8.56	8.56	11.19	12.37	8.12	10.25
Aug. . . .	7.50	7.41	8.50	8.90	8.61	8.75	11.30	11.81	8.56	10.62
Sep. . . .	8.25	7.56	8.58	8.83	8.30	9.50	11.80	11.50	8.63	10.62
Oct. . . .	8.13	7.56	8.00	8.63	8.06	9.06	11.10	10.88	8.31	10.63
Nov. . . .	7.00	6.88	7.15	8.38	7.95	8.62	11.31	9.94	8.19	10.62
Dec. . . .	6.31	6.44	7.04	8.43	7.00	8.19	12.29	9.88	8.19	9.88

AVERAGE PRICES OF SHORT-RIB SIDES AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 9.75	$10.94	$ 9.75	$10.31	$14.44	$23.60	$23.37			
Feb. . . .	10.25	11.13	9.50	10.69	15.94	24.68	23.25			
Mar. . . .	10.81	11.06	9.25	11.56	17.50	24.43	25.62			
Apr. . . .	11.25	10.81	9.63	12.25	19.38	23.21	27.69			
May . . .	11.94	11.06	10.12	12.56	20.50	22.25	29.10			
June . . .	11.88	11.44	10.00	12.94	20.50	22.60	28.50			
July . . .	11.81	11.94	9.62	13.56	21.55	23.95	28.69			
Aug. . . .	11.25	12.13	8.62	13.93	22.86	24.44	24.75			
Sep. . . .	11.38	11.88	8.38	14.50	25.19	23.93	20.75			
Oct. . . .	10.94	10.69	9.75	14.18	27.00	21.98	18.62			
Nov. . . .	10.81	10.13	10.00	14.31	26.88	24.75	19.50			
Dec. . . .	10.94	9.81	9.88	13.50	25.50	25.87	18.87			

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Dec. . . .										
Totals										

AVERAGE PRICES OF LARD AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 9.95	$ 6.92	$ 6.73	$ 7.47	$ 9.40	$ 7.76	$ 9.58	$12.25	$10.25	$ 9.25
Feb. . . .	9.53	7.49	6.76	7.63	9.72	7.22	9.50	12.59	9.44	8.90
Mar. . . .	9.95	7.06	6.94	8.04	9.02	7.93	9.98	14.00	8.70	9.35
Apr. . . .	9.60	6.70	7.13	8.55	8.73	8.14	10.19	13.00	7.84	10.36
May . . .	8.99	6.38	7.14	8.56	9.00	8.38	10.61	12.78	8.06	10.64
June . . .	8.49	6.69	7.25	8.67	8.79	8.83	11.51	12.16	8.15	10.77
July . . .	7.92	7.01	7.12	8.86	8.95	9.34	11.36	11.91	8.36	10.56
Aug. . . .	8.06	6.81	7.68	8.70	8.95	9.34	11.71	11.81	8.96	10.80
Sep. . . .	9.35	7.25	7.57	8.76	8.96	9.94	12.26	12.40	9.27	11.02
Oct. . . .	7.16	7.42	7.14	9.31	8.89	9.78	12.33	12.83	8.91	11.34
Nov. . . .	6.73	7.04	7.14	9.44	8.06	9.35	13.03	10.79	9.10	11.05
Dec. . . .	6.59	6.86	7.49	8.98	7.95	8.31	13.03	10.35	8.99	10.39

AVERAGE PRICES OF LARD AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 9.89	$10.90	$10.73	$10.40	$15.75	$24.45	$23.12			
Feb. . . .	10.42	10.56	10.46	9.95	17.09	26.02	24.15			
Mar. . . .	10.63	10.50	9.96	10.86	19.38	25.91	27.05			
Apr. . . .	10.96	10.16	9.91	11.99	21.13	25.23	30.78			
May . . .	11.06	9.85	9.86	12.83	21.92	24.66	31.51			
June . . .	11.04	9.91	9.43	12.71	21.19	24.62	34.68			
July . . .	11.51	9.94	8.46	12.95	20.68	26.17	33.99			
Aug. . . .	11.24	9.43	7.87	13.40	22.27	26.65	30.42			
Sep. . . .	11.15	9.65	8.10	14.46	24.23	26.89	26.03			
Oct. . . .	10.64	10.09	8.93	15.74	23.98	26.07	28.16			
Nov. . . .	10.72	10.83	8.99	16.98	26.64	26.78	25.43			
Dec. . . .	10.64	9.99	9.53	16.00	24.70	25.07	23.06			

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Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

AVERAGE PRICES OF ELGIN AND CHICAGO BUTTER EXTRAS.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ .273	$ .230	$ .293	$ .270	$ .306	$ .305	$ .310	$ .340	$ .270	$ .370
Feb. . . .	.258	.251	.325	.278	.328	.326	.300	.300	.260	.300
Mar. . . .	.281	.245	.273	.270	.308	.295	.290	.320	.250	.300
Apr. . . .	.259	.238	.291	.220	.300	.286	.280	.310	.210	.310
May . . .	.208	.197	.227	.198	.238	.238	.250	.280	.220	.280
June . . .	.211	.175	.200	.199	.231	.230	.260	.270	.220	.250
July . . .	.196	.171	.200	.203	.245	.220	.260	.280	.250	.250
Aug. . . .	.190	.179	.209	.225	.249	.224	.270	.290	.260	.250
Sep. . . .	.206	.194	.209	.244	.281	.239	.300	.300	.260	.300
Oct. . . .	.208	.211	.218	.257	.289	.275	.300	.290	.290	.290
Nov. . . .	.230	.250	.235	.275	.263	.294	.310	.310	.330	.330
Dec. . . .	.245	.269	.248	.311	.283	.308	.350	.300	.360	.350

AVERAGE PRICE OF ELGIN AND CHICAGO BUTTER EXTRAS.
Continued.
(Since February, 1918, Chicago price has been used.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ .330	$ .320	$ .310	$ .310	$ .380	$ .490	$ .540			
Feb. . . .	.340	.280	.300	.320	.410	.490	.500			
Mar. . . .	.350	.270	.280	.360	.410	.430	.580			
Apr. . . .	.320	.240	.300	.340	.430	.420	.620			
May . . .	.280	.260	.270	.290	.390	.420	.570			
June . . .	.280	.270	.270	.290	.380	.420	.510			
July . . .	.260	.270	.260	.280	.380	.430	.510			
Aug. . . .	.260	.290	.250	.300	.400	.450	.530			
Sep. . . .	.310	.290	.250	.330	.430	.550	.570			
Oct. . . .	.300	.300	.280	.350	.430	.560	.640			
Nov. . . .	.320	.330	.310	.390	.440	.630	.690			
Dec. . . .	.340	.330	.330	.390	.480	.670	.680			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
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Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

MILK PRICES IN ELGIN-CHICAGO DISTRICT.

(Prices per cwt. of 3½ per cent milk.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan.	$ 1.45	$ 1.55	$ 1.50	$ 1.45	$ 1.55	$ 1.65	$ 1.55	$ 1.75	$ 2.00	$ 1.85
Feb.	1.45	1.50	1.40	1.40	1.45	1.65	1.55	1.70	1.90	1.80
Mar.	1.35	1.40	1.30	1.30	1.35	1.55	1.45	1.55	1.70	1.65
Apr.	1.20	1.20	1.20	1.20	1.30	1.35	1.40	1.45	1.30	1.30
May	.95	.90	.90	.90	1.00	1.05	1.10	1.20	1.10	1.05
June	.85	.80	.80	.80	.90	.95	.95	1.05	1.00	1.00
July	.95	.90	.90	.90	1.00	1.05	1.05	1.20	1.30	1.30
Aug.	1.10	1.10	1.10	1.10	1.20	1.25	1.25	1.45	1.45	1.45
Sep.	1.20	1.20	1.20	1.20	1.30	1.35	1.35	1.60	1.45	1.50
Oct.	1.35	1.30	1.35	1.35	1.55	1.45	1.55	1.70	1.70	1.60
Nov.	1.45	1.40	1.45	1.45	1.65	1.55	1.70	1.90	1.85	1.75
Dec.	1.55	1.50	1.55	1.55	1.65	1.55	1.75	2.00	1.90	1.80

PRICES OF MILK IN ELGIN-CHICAGO DISTRICT—Continued.

(Prices per cwt. of 3½ per cent milk.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan.	$ 1.75	$ 2.00	$ 1.95	$ 1.64	$ 2.05	$ 3.22	$ 3.76			
Feb.	1.70	1.85	1.85	1.54	2.00	3.07	3.50			
Mar.	1.60	1.75	1.75	1.43	1.85	2.90	3.10			
Apr.	1.61	1.60	1.45	1.65	2.40	2.65	2.80			
May	1.36	1.40	1.20	1.45	2.00	2.05	2.50			
June	1.25	1.25	1.10	1.25	1.60	1.80	2.50			
July	1.46	1.50	1.30	1.55	2.12	2.30	3.00			
Aug.	1.61	1.60	1.55	1.70	2.30	2.75	3.50			
Sep.	1.55	1.60	1.55	1.70	2.30	2.92	3.55			
Oct.	1.65	1.90	1.53	1.90	3.42	3.32	3.63			
Nov.	1.75	2.00	1.65	2.10	3.22	3.68	3.60			
Dec.	1.85	2.00	1.65	2.10	3.22	3.77	3.65			

Jan.										
Feb.										
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Apr.										
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Dec.										
Totals										

AVERAGE PRICES OF DRAFT HORSES AT OMAHA AND CHICAGO MARKETS.*

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
January	$133	$188	$175	$183	$230					
February	140	148	175	183	243					
March	150	148	175	195	250					
April	175	163	188	208	268					
May	180	208	181	238	300					
June	145	193	163	205	280					
July	133	163	165	175	263					
August	133	148	165	178	233					
September	133	148	170	178	213					
October	140	163	200	195	200					
November	125	183	200	200	220					
December	143	178	200	200	200					
Yearly aver.	144	169	180	195	241	180	194	200	205	210

AVERAGE PRICES OF DRAFT HORSES AT OMAHA AND CHICAGO MARKETS*—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
January										
February										
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
Yearly aver.	213	208	203	210	215	210	215			

*Omaha prices, 1903 to 1907, inclusive; Chicago prices after 1907.

MONTHLY PRICES OF HORSES ON THE FARMS OF THE UNITED STATES.

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
January	$143	$134	$140	$137	$130	$128	$129	$130	$120	
February	144	137	146	139	132	129	131	133	121	
March	145	140	146	138	132	131	133	137	124	
April	147	142	148	138	132	133	136	137	127	
May	146	144	145	139	133	134	138	136	129	
June	145	147	146	136	132	132	137	135	127	
July	139	142	143	137	134	133	135	132	127	
August	141	142	141	135	131	131	132	131	125	
September	139	141	141	132	131	131	132	128	119	
October	137	140	138	131	129	130	130	126	114	
November	136	140	136	130	127	129	129	122	113	
December	134	139	135	130	126	129	129	121	113	

MONTHLY HOG RECEIPTS AT ELEVEN MARKETS.

(Chicago, Kansas City, Omaha, St. Louis, St. Joseph, Sioux City, St. Paul, Indianapolis, Cleveland, Buffalo and Pittsburgh.)

(000 omitted.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan.									2,036	3,084
Feb.									1,923	2,631
Mar.									2,169	2,165
Apr.									1,876	1,969
May									2,266	2,133
June									2,416	2,082
July									1,855	1,840
Aug.									1,600	1,462
Sep.									1,560	1,343
Oct.									2,021	1,875
Nov.									2,632	2,107
Dec.									2,445	2,404
Totals	20,550	21,920	23,845	23,049	24,136	27,826	22,820	19,523	24,859	25,095

MONTHLY HOG RECEIPTS AT ELEVEN MARKETS—Continued.

(Chicago, Kansas City, Omaha, St. Louis, St. Joseph, Sioux City, St. Paul, Indianapolis, Cleveland, Buffalo and Pittsburgh.)

(000 omitted.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan.	2,632	2,479	2,915	3,847	3,587	3,025	4,100	3,670		
Feb.	2,027	2,030	2,651	3,104	2,656	3,173	3,160	2,324		
Mar.	1,775	1,897	2,439	2,252	2,189	3,115	2,560			
Apr.	1,843	1,644	1,816	2,412	1,982	2,715	2,504			
May	2,105	1,859	1,961	2,395	2,265	2,433	2,739			
June	2,225	2,184	2,234	2,297	2,069	2,159	2,840			
July	1,959	1,722	1,837	1,884	1,991	2,272	2,251			
Aug.	1,771	1,491	1,605	2,157	1,333	1,718	1,493			
Sep.	1,753	1,436	1,363	1,609	1,035	1,566	1,555			
Oct.	2,032	1,943	1,624	2,462	1,721	2,333	1,992			
Nov.	2,248	1,995	2,600	3,575	2,547	3,240	2,559			
Dec.	2,815	2,838	3,567	3,712	2,711	4,082	3,551			
Totals	25,185	23,518	26,612	31,706	26,086	31,831	31,314			

Jan.										
Feb.										
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Apr.										
May										
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Nov.										
Dec.										
Totals										

MONTHLY HOG RECEIPTS AT SIX MARKETS.

(Chicago, Omaha, Kansas City, St. Louis, St. Joseph, Sioux City.)
(000 omitted.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	1,559	1,693	1,935	1,913	1,828	2,663	2,011	1,404	1,492	2,322
Feb. . . .	1,404	1,709	1,538	1,657	1,690	2,044	1,594	1,350	1,552	1,992
Mar. . . .	1,124	1,318	1,497	1,492	1,396	1,752	1,900	1,120	1,666	1,695
Apr. . . .	1,215	1,349	1,245	1,305	1,461	1,293	1,371	960	1,556	1,542
May . . .	1,451	1,472	1,588	1,608	1,783	1,790	1,553	1,260	1,852	1,759
June . . .	1,485	1,457	1,744	1,730	1,677	1,694	1,480	1,422	1,876	1,602
July . . .	1,364	808	1,266	1,408	1,595	1,354	1,153	1,117	1,492	1,405
Aug. . . .	1,164	1,236	1,158	1,396	1,278	1,269	1,005	1,098	1,172	1,085
Sep. . . .	1,043	923	1,047	1,046	1,149	1,151	1,002	830	1,166	934
Oct. . . .	974	1,109	1,318	1,113	1,088	1,591	1,138	892	1,439	1,295
Nov. . . .	1,290	1,644	1,617	1,252	1,037	1,875	1,389	1,212	1,828	1,452
Dec. . . .	1,730	1,772	1,799	1,458	1,610	1,981	1,440	1,331	1,779	1,664
Totals	15,803	16,490	17,752	17,378	17,593	20,457	17,036	13,996	18,871	18,743

MONTHLY HOG RECEIPTS AT SIX MARKETS—Continued.

(Chicago, Omaha, Kansas City, St. Louis, St. Joseph, Sioux City.)
(000 omitted.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	1,959	1,739	2,003	2,839	2,757	2,144	3,100			
Feb. . . .	1,575	1,584	2,028	2,416	2,219	2,322	2,458			
Mar. . . .	1,399	1,405	1,863	1,863	1,723	2,469	2,005			
Apr. . . .	1,385	1,202	1,305	1,435	1,510	2,096	1,919			
May . . .	1,585	1,320	1,506	1,594	1,667	1,819	2,049			
June . . .	1,688	1,483	1,551	1,631	1,475	1,594	2,124			
July . . .	1,444	1,170	1,332	1,378	1,470	1,754	1,705			
Aug. . . .	1,387	1,020	1,137	1,492	991	1,353	1,054			
Sep. . . .	1,309	984	956	1,116	701	1,172	1,092			
Oct. . . .	1,389	1,312	992	1,668	1,124	1,678	1,333			
Nov. . . .	1,575	1,494	1,651	2,469	1,641	2,208	1,740			
Dec. . . .	1,972	1,970	2,561	2,665	1,802	2,743	2,501			
Totals	18,668	16,619	18,876	22,566	19,080	23,352	23,080			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

HOG RECEIPTS AT CHICAGO.

(000 omitted.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	818	870	930	898	806	1,110	818	569	640	881
Feb. . . .	688	846	727	734	681	869	690	574	651	791
Mar. . . .	522	612	677	621	579	723	737	394	702	654
Apr. . . .	527	558	560	503	583	493	482	325	519	567
May . . .	571	580	653	561	647	604	570	462	635	630
June . . .	677	577	625	624	587	629	518	497	560	543
July . . .	545	350	504	585	611	531	449	390	508	523
Aug. . . .	538	502	489	571	511	469	397	441	485	431
Sep. . . .	465	356	476	454	480	381	353	355	442	404
Oct. . . .	451	477	579	511	442	634	399	424	587	522
Nov. . . .	637	705	704	556	472	816	564	549	695	573
Dec. . . .	885	805	800	656	802	873	643	607	679	661
Totals	7,324	7,238	7,724	7,274	7,201	8,132	6,620	5,587	7,103	7,180

HOG RECEIPTS AT CHICAGO—Continued.

(000 omitted.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	806	729	896	1,228	1,124	729	1,123	1,024		
Feb. . . .	646	649	740	947	792	917	913	616		
Mar. . . .	586	543	646	733	628	975	675			
Apr. . . .	534	444.	467	542	543	787	640			
May . . .	549	465	567	612	584	659	704			
June . . .	611	586	564	566	506	513	781			
July . . .	517	460	511	527	474	628	603			
Aug. . . .	565	414	445	587	337	434	384			
Sep. . . .	588	370	412	474	251	398	432			
Oct. . . .	641	521	418	781	436	681	568			
Nov. . . .	641	434	812	1,062	698	894	807			
Dec. . . .	889	1,002	1,175	1,128	796	1,000	1,043			
Totals	7,573	6,617	7,653	9,187	7,169	8,615	8,673			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

HOG RECEIPTS AT OMAHA.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	197	185	206	229	203	306	242	177	171	330
Feb. . . .	204	222	184	226	218	261	192	202	204	359
Mar. . . .	164	198	216	223	198	241	284	194	252	286
Apr. . . .	183	234	166	205	193	170	213	153	238	285
May . . .	240	253	226	255	250	262	222	172	256	303
June . . .	277	264	301	305	245	262	230	214	279	279
July . . .	210	106	222	207	259	159	170	166	213	223
Aug. . . .	159	180	172	219	182	158	135	172	161	168
Sep. . . .	130	135	123	130	153	110	118	102	119	111
Oct. . . .	100	125	120	111	115	122	89	93	108	137
Nov. . . .	150	185	137	117	78	165	102	110	152	183
Dec. . . .	218	214	210	167	159	208	138	137	214	220
Totals	2,232	2,301	2,283	2,394	2,253	2,424	2,135	1,892	2,367	2,884

HOG RECEIPTS AT OMAHA—Continued.

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	281	256	258	396	441	331	449			
Feb. . . .	254	244	318	402	377	364	391			
Mar. . . .	227	243	320	318	295	393	400			
Apr. . . .	212	194	234	231	229	379	310			
May . . .	248	211	245	238	244	285	296			
June . . .	246	208	258	261	244	285	303			
July . . .	227	202	218	217	261	288	281			
Aug. . . .	185	138	189	199	166	225	147			
Sep. . . .	132	99	119	120	94	147	102			
Oct. . . .	127	103	77	123	98	132	116			
Nov. . . .	190	155	103	277	148	239	135			
Dec. . . .	220	206	304	335	200	360	254			
Totals	2,549	2,259	2,643	3,117	2,797	3,428	3,184			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

HOG RECEIPTS AT ST. LOUIS.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .				210	227	311	282	211	236	343
Feb. . . .				172	179	197	218	165	220	221
Mar. . . .				166	170	183	242	163	267	217
Apr. . . .				148	179	174	199	131	226	191
May . . .				189	196	233	199	204	275	215
June . . .				158	167	219	192	207	310	189
July . . .				145	169	180	160	174	246	177
Aug. . . .				145	157	169	134	151	191	145
Sep. . . .				112	141	174	168	120	226	142
Oct. . . .				134	177	220	199	134	285	217
Nov. . . .				158	136	229	241	182	354	210
Dec. . . .				186	167	259	230	212	282	251
Totals	1,568	1,955	2,026	1,923	2,065	2,548	2,464	2,054	3,118	2,518

HOG RECEIPTS AT ST. LOUIS—Continued.

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	283	291	261	361	360	292	395			
Feb. . . .	219	265	285	315	293	338	340			
Mar. . . .	185	224	301	245	259	320	332			
Apr. . . .	180	197	205	189	232	275	340			
May . . .	232	209	210	242	264	251	340			
June . . .	226	196	189	206	203	223	305			
July . . .	189	151	157	171	177	227	232			
Aug. . . .	175	163	144	215	125	193	166			
Sep. . . .	188	209	142	170	98	176	209			
Oct. . . .	182	237	173	232	196	264	235			
Nov. . . .	214	187	232	358	245	305	312			
Dec. . . .	290	230	293	353	253	392	432			
Totals	2,563	2,559	2,592	3,057	2,705	3,256	3,638			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

HOG RECEIPTS AT KANSAS CITY.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .				271	263	502	357	222	223	353
Feb. . . .				224	254	325	257	187	225	241
Mar. . . .				196	218	290	339	184	295	200
Apr. . . .				219	255	248	267	175	316	208
May . . .				301	362	353	302	217	356	233
June . . .				285	313	200	247	220	338	209
July . . .				207	259	202	150	162	233	169
Aug. . . .				214	170	196	154	129	139	102
Sep. . . .				141	151	272	207	110	183	107
Oct. . . .				191	196	369	268	117	250	217
Nov. . . .				215	208	370	277	178	332	241
Dec. . . .				212	275	363	250	177	281	243
Totals	1,969	2,227	2,508	2,676	2,924	3,690	3,075	2,078	3,171	2,523

HOG RECEIPTS AT KANSAS CITY—Continued.

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan . . .	270	203	254	328	274	305	440			
Feb. . . .	196	170	297	286	235	269	314			
Mar. . . .	163	172	244	219	186	275	224			
Apr. . . .	218	166	174	192	201	256	281			
May . . .	229	180	212	274	228	269	304			
June . . .	245	177	211	250	172	225	291			
July . . .	196	114	151	175	171	213	198			
Aug. . . .	170	117	143	220	129	195	131			
Sep. . . .	172	149	130	190	102	211	169			
Oct. . . .	203	232	180	271	172	298	216			
Nov. . . .	243	382	240	299	195	356	231			
Dec. . . .	261	202	294	274	212	455	310			
Totals	2,566	2,264	2,529	2,978	2,277	3,325	3,109			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

HOG RECEIPTS AT SIOUX CITY.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .										177
Feb. . . .										185
Mar. . . .										143
Apr. . . .										138
May . . .										199
June . . .										207
July . . .										156
Aug. . . .										110
Sep. . . .										69
Oct. . . .										76
Nov. . . .										97
Dec. . . .										123
Totals	1,008	1,113	1,299	1,158	1,289	1,377	1,077	1,044	1,349	1,680

HOG RECEIPTS AT SIOUX CITY—Continued

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	136	88	175	271	315	252	314			
Feb. . . .	114	105	204	255	257	232	261			
Mar. . . .	112	108	200	191	196	300	224			
Apr. . . .	107	93	116	161	154	228	195			
May . . .	178	127	142	150	169	200	235			
June . . .	180	149	185	162	187	209	246			
July . . .	172	133	176	150	217	232	237			
Aug. . . .	150	104	114	124	103	151	127			
Sep. . . .	114	64	65	75	66	110	90			
Oct. . . .	97	64	51	100	105	115	92			
Nov. . . .	87	116	103	212	203	157	106			
Dec. . . .	86	113	229	279	176	236	195			
Totals	1,533	1,264	1,760	2,130	2,148	2,422	2,322			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

HOG RECEIPTS AT ST. JOSEPH.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .				186	202	270	187	146	125	238
Feb. . . .				166	187	233	149	118	161	196
Mar. . . .				160	143	194	170	109	175	201
Apr. . . .				150	162	140	121	101	145	163
May . . .				184	201	214	147	122	176	177
June . . .				219	213	247	159	147	212	176
July . . .				159	179	186	124	124	170	156
Aug. . . .				147	148	201	120	110	112	127
Sep. . . .				109	129	155	99	80	108	103
Oct. . . .				116	112	157	120	67	134	126
Nov. . . .				139	87	168	138	112	194	147
Dec. . . .				174	159	174	156	111	203	163
Totals	1,701	1,656	1,900	1,909	1,922	2,339	1,690	1,360	1,915	1,973

HOG RECEIPTS AT ST. JOSEPH—Continued

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	184	170	160	255	242	236	368			
Feb. . . .	147	150	185	210	200	234	220			
Mar. . . .	116	122	151	157	160	204	151			
Apr. . . .	124	108	109	120	150	170	153			
May . . .	149	128	130	177	177	156	170			
June . . .	179	166	143	185	163	140	198			
July . . .	143	110	110	137	172	167	153			
Aug. . . .	143	85	102	148	130	155	97			
Sep. . . .	113	94	88	92	90	130	89			
Oct. . . .	140	156	91	162	118	187	111			
Nov. . . .	199	219	160	261	152	257	149			
Dec. . . .	232	217	268	294	165	315	267			
Totals	1,869	1,725	1,698	2,198	1,920	2,351	2,126			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

MONTHLY CATTLE RECEIPTS AT SIX MARKETS.

(Chicago, Omaha, Kansas City, St. Louis, St. Joseph, Sioux City.)
(000 omitted.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	671	706	693	771	836	735	664	688	745	702
Feb. . . .	586	624	548	629	628	596	535	554	548	516
Mar. . . .	627	664	643	592	612	619	632	613	558	508
Apr. . . .	666	604	623	577	723	494	490	495	479	495
May . . .	620	587	707	671	625	505	558	533	602	471
June . . .	669	692	666	599	669	604	552	615	623	448
July . . .	727	402	672	678	745	588	607	649	680	508
Aug. . . .	824	744	883	732	796	771	820	923	774	684
Sep. . . .	1,065	927	1,000	858	1,037	967	1,010	1,029	784	902
Oct. . . .	1,085	1,088	1,196	1,080	1,057	941	1,022	1,076	1,073	1,040
Nov. . . .	841	927	919	868	646	807	955	854	780	694
Dec. . . .	676	663	764	750	650	701	782	652	597	750
Totals	9,057	8,628	9,314	8,803	9,024	8,328	8,627	8,681	8,242	7,717

For 1903, 1904 and 1905, the figures as given are about 8 per cent too high, on account of the system of counting calves as cattle at certain markets; 92 per cent of the 1903, 1904 and 1905 figures will make them more comparable with the later years.

MONTHLY CATTLE RECEIPTS AT SIX MARKETS—Continued.

(Chicago, Omaha, Kansas City, St. Louis, St. Joseph, Sioux City.)
(000 omitted.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	640	557	572	655	847	842	1,086			
Feb. . . .	514	474	415	569	592	789	729			
Mar. . . .	503	494	549	581	554	842	654			
Apr. . . .	512	436	468	441	601	924	695			
May . . .	461	399	464	557	731	694	669			
June . . .	539	467	479	548	730	719	649			
July . . .	574	455	475	545	793	988	855			
Aug. . . .	710	574	643	844	830	953	937			
Sep. . . .	950	821	782	915	1,085	1,419	1,224			
Oct. . . .	851	834	891	1,226	1,396	1,402	1,276			
Nov. . . .	622	593	859	964	1,218	1,254	1,224			
Dec. . . .	615	622	658	753	922	1,124	1,036			
Totals	7,489	6,723	7,254	8,598	10,299	11,950	11,034			

MONTHLY CATTLE RECEIPTS AT CHICAGO.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	275	293	320	308	317	313	273	272	294	284
Feb. . . .	239	266	257	243	250	258	209	228	213	211
Mar. . . .	264	261	267	227	230	253	238	225	211	214
Apr. . . .	280	246	237	242	282	206	180	192	184	208
May . . .	231	237	254	264	250	181	201	194	246	198
June . . .	303	268	236	235	235	227	180	227	217	167
July . . .	282	155	238	263	263	203	192	234	240	183
Aug. . . .	293	273	293	267	235	248	234	294	246	206
Sep. . . .	341	277	315	297	319	267	278	283	226	222
Oct. . . .	339	362	356	357	369	288	293	331	320	272
Nov. . . .	302	339	320	328	272	308	335	319	293	232
Dec. . . .	283	282	319	297	283	289	315	254	242	256
Totals	3,432	3,259	3,412	3,328	3,305	3,041	2,928	3,053	2,932	2,653

MONTHLY CATTLE RECEIPTS AT CHICAGO—Continued.

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	240	215	190	227	309	261	364			
Feb. . . .	176	194	131	194	206	280	257			
Mar. . . .	190	190	176	186	171	304	213			
Apr. . . .	212	184	162	156	204.	303	226			
May . . .	178	161	170	199	237	228	232			
June . . .	200	177	179	177	218	245	244			
July . . .	184	162	165	180	206	314	286			
Aug. . . .	184	186	200	231	233	265	238			
Sep. . . .	238	213	205	254	318	389	293			
Oct. . . .	242	222	202	332	415	414	396			
Nov. . . .	217	119	243	318	376	402	386			
Dec. . . .	252	214	239	276	322	385	369			
Totals	2,513	2,237	2,262	2,730	3,215	3,790	3,504			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

MONTHLY SHEEP RECEIPTS AT SIX MARKETS.

(Chicago, Omaha, Kansas City, St. Louis, St. Joseph, Sioux City.)
(000 omitted.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	603	677	703	820	835	661	628	692	893	1,108
Feb. . . .	573	772	683	732	748	654	641	584	758	930
Mar. . . .	628	792	760	888	766	610	792	607	858	956
Apr. . . .	628	632	779	775	788	641	654	507	767	835
May . . .	543	574	790	719	570	573	504	607	825	710
June . . .	497	597	563	567	542	660	631	661	840	713
July . . .	574	334	659	660	611	643	661	834	845	878
Aug. . . .	778	765	794	831	747	852	926	1,267	1,165	1,128
Sep. . . .	1,097	1,125	1,233	1,083	1,146	1,376	1,285	1,721	1,684	1,640
Oct. . . .	1,204	1,150	1,306	1,335	1,258	1,044	1,376	1,910	2,139	2,051
Nov. . . .	961	812	830	926	658	861	876	1,317	1,196	1,190
Dec. . . .	681	543	609	701	600	797	743	756	866	967
Totals	8,767	8,773	9,709	10,036	9,269	9,372	9,717	11,463	12,834	13,106

MONTHLY SHEEP RECEIPTS AT SIX MARKETS—Continued.

(Chicago, Omaha, Kansas City, St. Louis, St. Joseph, Sioux City.)
(000 omitted.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	961	1,060	914	861	893	821	899			
Feb. . . .	858	965	794	818	800	690	647			
Mar. . . .	787	1,032	849	723	790	747	675			
Apr. . . .	859	964	635	643	673	600	737			
May . . .	812	782	534	682	475	586	703			
June . . .	776	765	569	717	512	604	806			
July . . .	886	772	682	694	561	788	1,191			
Aug. . . .	1,030	1,070	1,010	1,087	707	1,088	1,671			
Sep. . . .	2,018	1,716	1,526	1,431	1,205	1,945	2,232			
Oct. . . .	1,996	1,630	1,127	1,544	1,324	1,745	1,591			
Nov. . . .	1,195	823	974	947	792	1,059	1,199			
Dec. . . .	1,075	887	842	868	851	854				
Totals	13,252	12,466	10,456	11,015	9,583	11,527				

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

MONTHLY SHEEP RECEIPTS AT CHICAGO.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	361	356	344	370	418	304	287	328	418	565
Feb. . . .	301	432	304	337	314	282	250	222	341	427
Mar. . . .	304	375	346	375	273	263	308	225	319	390
Apr. . . .	275	301	342	367	339	285	276	221	298	349
May . . .	232	289	361	363	260	275	223	259	375	322
June . . .	324	332	285	324	261	353	301	329	403	261
July . . .	318	217	335	335	331	339	363	444	446	456
Aug. . . .	427	421	365	409	360	403	420	570	495	532
Sep. . . .	555	467	606	467	444	540	534	686	653	658
Oct. . . .	586	575	691	633	575	412	597	896	886	803
Nov. . . .	519	422	416	439	323	460	474	648	611	650
Dec. . . .	381	318	345	387	319	435	409	402	492	544
Totals	4,583	4,505	4,737	4,806	4,217	4,351	4,442	5,230	5,737	6,057

MONTHLY SHEEP RECEIPTS AT CHICAGO—Continued.

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	450	485	385	334	306	289	442			
Feb. . . .	353	458	233	306	282	252	275			
Mar. . . .	332	460	259	279	306	258	243			
Apr. . . .	359	400	232	270	307	245	276			
May . . .	355	343	213	282	198	237	271			
June . . .	369	341	226	310	213	252	342			
July . . .	428	375	277	298	230	340	458			
Aug. . . .	465	443	301	410	242	417	483			
Sep. . . .	817	650	347	440	372	668	699			
Oct. . . .	804	681	317	577	469	671	716			
Nov. . . .	622	271	372	438	333	574	559			
Dec. . . .	550	469	346	347	336	426	481			
Totals	5,904	5,376	3,508	4,291	3,594	4,629	5,245			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

CORN RECEIPTS AT CHICAGO.

(In bushels—000 omitted.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan.	9,300	7,500	10,200	8,700	11,500	12,400	8,800	8,800	12,700	12,900
Feb.	6,800	7,300	6,800	7,900	13,200	7,200	7,800	12,000	10,100	15,200
Mar.	6,500	5,400	14,800	6,000	11,300	7,900	9,700	9,700	9,900	10,100
Apr.	2,500	4,500	8,300	4,200	8,000	6,500	3,000	4,000	4,700	3,000
May	5,800	4,700	4,700	7,000	6,400	6,200	6,000	3,000	9,100	5,900
June	12,300	13,200	11,900	14,800	19,400	9,800	8,600	8,600	15,400	12,900
July	6,700	6,600	10,300	8,700	8,600	5,100	6,500	6,000	5,100	5,900
Aug.	5,500	7,300	8,500	4,700	5,600	6,600	6,700	8,000	6,700	6,400
Sep.	13.600	14,800	11,500	13,000	14,600	8,300	10,700	13,000	11,200	12,400
Oct.	10,200	3,500	5,000	5,100	13,300	3,600	7,100	8,400	6,900	7,600
Nov.	6,600	7,400	8,000	6,400	4,100	5,300	5,900	8,200	7,800	7,000
Dec.	5,800	16,800	10,600	8,400	9,100	12,500	10,300	13,900	8,900	13,300

CORN RECEIPTS AT CHICAGO—Continued.

(In bushels—000 omitted.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan.	21,900	8,800	20,900	12,000	11,100	5,800	8,000			
Feb.	21,500	8,400	9,400	15,700	7,200	10,600	3,700			
Mar.	11,000	7,600	4,900	8,200	8,000	14,000	3,800			
Apr.	3,600	2,100	3,900	4,700	4,900	8,500	6,100			
May	5,100	2,500	4,300	7,200	5,100	5,900	3,300			
June	16,300	9,700	4,900	3,900	8,400	7,700	8,100			
July	6,400	5,100	6,500	10,600	5,300	10,000	4,900			
Aug.	4,300	9,200	6,200	6,400	4,100	5,300	3,300			
Sep.	15,200	8,100	9,200	9,400	2,900	9,500	7,500			
Oct.	5,800	5,900	8,100	5,400	3,900	11,600	4,800			
Nov.	2,800	12,500	7,600	8,600	4,900	6,100	4,900			
Dec.	13,800	25,700	9,700	10,300	6,200	5,500	7,500			

Jan.										
Feb.										
Mar.										
Apr.										
May										
June										
July										
Aug.										
Sep.										
Oct.										
Nov.										
Dec.										
Totals										

OATS RECEIPTS AT CHICAGO.

(In bushels—000 omitted.)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	9,100	5,300	3,600	8,100	6,700	7,600	6,300	5,400	8,900	5,200
Feb. . . .	6,900	6,800	3,900	5,800	5,500	6,200	5,600	6,700	5,900	7,100
Mar. . . .	8,100	8,900	9,100	6,200	8,300	11,300	8,100	8,300	5,600	7,400
Apr. . . .	6,000	4,100	3,900	6,400	9,100	7,700	5,500	5,800	5,600	6,100
May . . .	5,300	3,700	4,200	6,300	8,400	8,300	7,300	6,400	8,900	7,400
June . . .	7,900	4,500	6,300	7,000	5,800	5,600	7,500	6,500	9,800	6,000
July . . .	8,600	3,900	6,300	5,500	4,200	5,200	4,000	6,400	6,900	5,800
Aug. . . .	8,200	11,700	12,900	10,100	8,700	8,400	13,100	24,400	13,300	14,600
Sep. . . .	5,800	7,500	10,800	8,800	11,500	10,400	8,700	7,200	8,300	17,700
Oct. . . .	8,800	6,000	14,000	12,000	11,600	8,900	8,500	7,700	9,200	17,900
Nov. . . .	6,900	4,400	9,300	7,300	5,700	5,900	7,600	6,900	5,400	13,500
Dec. . . .	6,300	3,500	8,200	6,300	8,500	6,900	5,700	10,300	6,300	9,800

OATS RECEIPTS AT CHICAGO—Continued.

(In bushels—000 omitted.)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	11,300	8,100	11,700	12,900	7,800	5,700	6,600			
Feb. . . .	9,100	6,600	11,400	11,700	7,000	8,800	4,300			
Mar. . . .	8,300	8,300	11,600	8,600	10,700	9,700	3,700			
Apr. . . .	7,600	5,900	6,100	9,500	9,700	13,600	5,500			
May . . .	10,800	6,400	5,500	17,000	8,600	9,000	5,800			
June . . .	16,600	9,200	6,100	9,200	8,500	8,200	10,100			
July . . .	10,000	10,600	7,500	8,400	7,900	13,500	11,000			
Aug. . . .	13,900	23,700	16,700	31,700	14,900	22,800	12,300			
Sep. . . .	12,900	16,700	18,200	14,300	14,800	11,400	8,900			
Oct. . . .	9,000	17,900	12,400	18,200	13,700	10,900	9,400			
Nov. . . .	6,900	11,800	16,300	12,400	13,600	11,000	5,500			
Dec. . . .	8,100	13,200	10,200	8,500	8,700	12,500	5,600			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

AVERAGE WEIGHT OF HOGS AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	208	206	213	217	223	215	203	210	226	212
Feb. . . .	209	205	209	215	222	212	204	213	230	217
Mar. . . .	215	206	211	218	228	212	206	218	239	218
Apr. . . .	222	208	216	221	234	219	212	227	241	227
May . . .	227	214	219	226	235	218	216	239	242	232
June . . .	231	221	222	226	236	217	219	242	236	235
July . . .	235	226	228	231	240	222	225	246	233	239
Aug. . . .	248	239	236	241	250	224	232	255	239	240
Sep. . . .	257	244	241	248	253	219	232	259	224	235
Oct. . . .	241	230	234	237	235	207	227	253	212	226
Nov. . . .	228	232	230	229	209	213	225	232	208	222
Dec. . . .	219	228	221	225	214	211	214	224	213	223
Y'rly av.	227	220	222	226	231	216	218	235	232	226

AVERAGE WEIGHT OF HOGS AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	226	216	223	195	199	216	228	229		
Feb. . . .	230	224	224	204	204	231	232	231		
Mar. . . .	240	233	231	214	209	238	230			
Apr. . . .	242	233	233	219	213	242	230			
May . . .	242	236	233	220	217	238	232			
June . . .	244	237	231	226	225	235	233			
July . . .	243	244	238	231	232	243	242			
Aug. . . .	233	248	246	232	233	243	251			
Sep. . . .	222	242	235	223	231	247	254			
Oct. . . .	209	229	204	210	212	233	237			
Nov. . . .	207	218	187	195	209	226	226			
Dec. . . .	213	226	190	193	211	223	224			
Y'rly av.	228	231	219	210	213	234	233			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

AVERAGE WEIGHT OF HOGS AT OMAHA.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	235	231	256	234	244	233	231	229	242	247
Feb. . . .	242	250	236	226	237	228	223	226	243	222
Mar. . . .	236	235	239	228	244	230	227	231	254	221
Apr. . . .	247	236	236	230	252	233	233	232	244	231
May . . .	248	232	237	232	250	228	232	245	254	233
June . . .	253	233	241	232	250	226	229	249	245	234
July . . .	254	232	233	233	254	227	236	250	242	232
Aug. . . .	265	244	238	246	260	229	239	259	253	238
Sep. . . .	273	252	245	253	263	226	240	272	265	241
Oct. . . .	278	251	251	254	260	222	242	284	262	235
Nov. . . .	268	267	252	248	244	238	248	274	246	235
Dec. . . .	265	265	248	246	249	237	234	262	225	238

AVERAGE WEIGHT OF HOGS AT OMAHA—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	234	224	241	216	218	240	229			
Feb. . . .	229	232	238	216	223	243	235			
Mar. . . .	238	238	244	224	226	249	236			
Apr. . . .	241	242	252	228	229	242	235			
May . . .	244	247	256	232	233	246	238			
June . . .	245	250	248	236	239	248	244			
July . . .	247	255	249	243	245	261	245			
Aug. . . .	244	261	264	247	245	260	255			
Sep. . . .	249	268	274	249	256	264	275			
Oct. . . .	233	265	265	246	257	264	281			
Nov. . . .	219	253	252	224	260	240	271			
Dec. . . .	218	242	230	211	243	227	249			

AVERAGE WEIGHT OF HOGS AT ST. LOUIS.

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Jan. . . .	178	188	158	182	169	170	172	175	190	189
Feb. . . .	165	195	162	180	177	174	173	179	190	184
Mar. . . .	171	202	167	170	174	176	171	175	189	173
Apr. . . .	176	197	165	179	180	175	171	171	186	176
May . . .	198	170	191	181	174	175	178	175	181	182
June . . .	206	180	196	183	177	180	180	173	180	182
July . . .	184	190	174	185	174	180	181	177	182	181
Aug. . . .	193	185	181	183	174	186	176	175	174	183
Sep. . . .	215	186	196	182	173	183	168	182	174	181
Oct. . . .	205	173	182	182	169	165	162	181	178	176
Nov. . . .	205	169	178	178	175	169	164	181	182	183
Dec. . . .	191	159	176	169	166	174	172	185	188	181
Y'rly av.	192	183	177	179	173	175	172	177	183	181

AVERAGE WEIGHT OF HOGS AT KANSAS CITY.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
January										
February										
March										
April										203
May										203
June										205
July										204
August										199
September										198
October										206
November										205
December										
Yearly aver.	218	207	208	211	212	200	199	210	204	200

AVERAGE WEIGHT OF HOGS AT KANSAS CITY—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
January	213	183	201	204	189	218	188			
February	212	193	204	199	189	221	201			
March	213	200	201	203	192	213	202			
April	216	195	204	204	191	218	194			
May	208	197	204	202	193	213	193			
June	206	196	197	202	196	207	194			
July	202	196	199	204	190	206	194			
August	193	192	202	188	180	191	193			
September	190	192	198	181	183	172	181			
October	185	191	192	171	195	173	175			
November	178	186	194	172	198	185	187			
December	178	188	205	183	206	194	189			
Yearly aver.	201	191	200	193	192	201	191			

Jan.											
Feb.											
Mar.											
Apr.											
May											
June											
July											
Aug.											
Sep.											
Oct.											
Nov.											
Dec.											
Totals											

AVERAGE WEIGHT OF HOGS AT ST. JOSEPH.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
January	237	204	218	206	218	230	213			
February	227	215	220	215	226	242	218			
March	229	223	230	221	230	243	228			
April	229	216	240	227	225	241	228			
May	228	219	236	218	221	239	224			
June	232	213	240	217	223	230	224			
July	206	228	234	226	228	229	229			
August	232	231	245	239	226	234	237			
September	229	240	239	230	243	241	247			
October	218	218	217	215	233	226	234			
November	192	193	209	205	234	206	222			
December	192	210	210	206	228	205	219			
Yearly aver.	211	217	228	219	228	230	227			

AVERAGE WEIGHT OF HOGS AT SIOUX CITY.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
January										215
February										216
March										223
April										228
May										232
June										237
July										237
August										250
September										255
October										252
November										266
December										258
Yearly aver.	248	247	244	248	249	238	233	250	250	239

AVERAGE WEIGHT OF HOGS AT SIOUX CITY—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
January	249	220	232	215	209	200	231			
February	239	228	226	220	211	211	230			
March	250	241	242	225	217	244	238			
April	256	240	248	231	225	248	240			
May	261	246	251	236	221	242	247			
June	257	254	251	246	232	248	251			
July	256	249	256	250	238	258	251			
August	251	262	259	249	239	256	265			
September	238	268	270	249	234	267	273			
October	210	286	262	250	231	270	267			
November	211	266	228	236	226	261	268			
December	217	255	222	215	235	242	242			
Yearly aver.	241	251	246	231	225	248	250			

AVERAGE WEIGHT OF CATTLE AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
January	1,044	1,086	1,066	1,041	1,005	1,049	1,025	1,019	987	1,018
February	1,064	1,080	1,068	1,046	1,025	1,069	1,042	1,010	1,031	990
March	1,065	1,068	1,000	1,023	1,012	1,020	1,022	995	1,030	991
April	1,020	1,033	938	981	973	1,058	1,055	1,036	1,068	999
May	1,040	1,015	950	962	960	1,064	1,082	1,024	1,080	994
June	1,062	1,008	988	1,001	977	1,040	1,092	1,006	1,036	999
July	1,031	1,044	1,043	1,008	983	1,061	1,074	980	1,017	1,003
August	1,045	1,011	1,033	1,005	966	1,057	1,022	939	995	958
September	988	1,011	1,020	993	930	1,022	994	949	985	953
October	1,005	966	1,020	964	945	1,005	974	947	966	951
November	1,041	1,015	1,046	993	1,001	991	995	990	889	957
December	1,078	1,035	1,048	995	1,021	1,019	999	995	972	980
Yearly aver.	1,039	1,032	1,019	1,000	979	1,036	1,036	990	997	981

AVERAGE WEIGHT OF CATTLE AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
January	1,002	996	1,027	1,044	980	946	885			
February	1,006	1,013	1,041	1,038	962	953	932			
March	929	1,012	1,055	1,025	992	956	918			
April	1,040	1,036	1,089	1,025	969	975	946			
May	1,040	1,021	1,075	1,010	982	914	937			
June	1,069	1,008	1,076	1,000	961	966	966			
July	1,037	1,000	1,032	1,009	957	912	917			
August	1,021	999	1,050	980	931	943	959			
September	992	981	1,047	943	930	914	896			
October	980	958	1,024	950	873	921	954			
November	1,011	1,015	1,017	954	911	930	929			
December	997	1,003	1,037	957	911	933	935			
Yearly aver.	1,008	1,002	1,046	987	939	941	936			

Jan.										
Feb.										
Mar.										
Apr.										
May										
June										
July										
Aug.										
Sep.										
Oct.										
Nov.										
Dec.										
Totals										

AVERAGE WEIGHT OF SHEEP AND LAMBS AT CHICAGO.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
January	88	93	89	86	86	85	84	83	90	82
February	86	89	89	83	86	84	83	82	88	82
March	82	87	88	82	86	86	84	82	86	84
April	87	88	89	82	85	84	84	80	85	82
May	85	86	87	82	84	85	81	82	84	80
June	80	82	82	80	81	82	77	80	75	76
July	80	83	82	80	81	79	76	80	76	75
August	81	82	79	79	81	79	80	80	78	75
September	77	78	78	78	82	79	79	79	72	77
October	79	78	75	79	80	79	80	79	73	78
November	82	85	80	80	81	81	81	82	78	82
December	87	88	84	85	84	82	79	81	83	85
Yearly aver.	83	84	83	81	83	82	83	81	79	79

AVERAGE WEIGHT OF SHEEP AND LAMBS AT CHICAGO—Continued.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
January	87	81	82	83	81	80	79			
February	85	81	81	85	82	84	81			
March	84	84	82	87	85	85	80			
April	85	83	83	85	84	84	83			
May	82	82	81	83	83	83	82			
June	77	74	72	74	72	73	75			
July	76	76	73	75	71	73	73			
August	78	76	79	76	74	78	76			
September	75	73	75	74	74	75	72			
October	73	71	78	74	73	72	72			
November	78	83	81	78	77	72	73			
December	80	83	82	79	82	79	76			
Yearly aver.	79	78	79	79	78	78	76			

Jan.										
Feb.										
Mar.										
Apr.										
May										
June										
July										
Aug.										
Sep.										
Oct.										
Nov.										
Dec.										
Totals										

PERCENTAGE OF DIFFERENT GRADES OF CATTLE SLAUGHTERED AT CENTRAL MARKETS.

	July.	August.	September.	October.	November.	December.
Steers—						
1,500 pounds and up	.236	.209	.427	.104	.068	.058
1,300 to 1,500 pounds	1.492	1.276	1.550	1.241	.844	.738
1,100 to 1,300 pounds	8.709	8.134	6.548	6.047	6.796	6.255
950 to 1,100 pounds	16.366	13.421	11.573	9.524	12.174	13.387
950 pounds and down	3.790	2.801	2.994	2.263	2.819	4.131
Western, etc.	8.623	17.432	17.091	17.358	13.762	7.425
Canners	5.674	1.592	1.756	2.261	1.572	3.582
Baby beef	2.066	1.049	.661	.452	.847	1.673
Total steers	46.956	45.914	42.600	39.250	38.856	37.249
Bulls—						
Native	2.930	2.270	2.180	1.760	1.570	1.720
Western, etc.	2.947	.581	1.366	.748	.774	.687
Canners	1.904	1.001	.990	.806	1.694	.428
Total bulls	7.781	3.852	4.536	3.314	4.038	2.835
Cows—						
Native or shipper	13.940	11.450	11.890	10.600	10.510	15.990
Western	1.584	6.782	5.234	7.566	9.195	6.488
Canner	17.874	21.972	12.050	29.077	26.097	25.176
Total cows	33.398	40.204	29.174	47.243	45.802	47.654
Heifers—						
Native	6.820	7.060	6.820	6.550	6.880	9.340
Western, etc.	1.076	1.854	4.342	2.558	2.706	1.846
Canners	1.904	.399	11.734	.476	1.166	.718
Baby beef	2.053	.821	.719	.608	.533	.353
Total heifers	11.853	10.134	23.615	10.192	11.285	12.257

The above figures were compiled by Stephen Chase, of the Food Administration, for the last half of 1918. No other years are available. Note the large proportion of our beef supply which comes from canner cows and light steers.

YEARLY SHIPMENTS OF STOCKER AND FEEDER CATTLE FROM OMAHA.

(000 omitted)

	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
Nebraska	131	137	125	111	114	125	135	155
Iowa	92	122	143	160	125	148	176	202
Kansas	1	2	1	1	4	3	10	
Illinois	8	8	9	32	36	56	62	47
Missouri	11	19	12	18	24	35	35	26
South Dakota	5	22	13	31	12	7	3	1
Colorado						1	1	1
Wyoming	1		1	1		1	1	1
Other states	9	6	5	5	3	4	9	8
Totals	257	316	308	359	318	380	432	443

YEARLY SHIPMENTS OF STOCKER AND FEEDER CATTLE FROM OMAHA—Continued.

(000 omitted)

	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Nebraska	150	126	171	224	279	284	229	293
Iowa	182	213	152	172	207	199	190	282
Kansas	2	1	1	1	1	2	1	3
Illinois	39	27	20	27	18	22	36	31
Missouri	21	10	11	19	7	11	9	13
South Dakota	8	16	9	15	12	22	33	16
Colorado	4	1	2	2	1	1	2	2
Wyoming	6	4	4	10	3	3	7	4
Other states	5	8	4	7	5	16	9	11
Totals	416	405	375	475	533	561	517	654

MONTHLY SHIPMENTS OF STOCKER AND FEEDER CATTLE FROM OMAHA.

(000 omitted)

	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
January	18	18	19	26	25	32	18	36
February	13	13	22	19	19	22	21	29
March	19	30	20	22	22	25	34	27
April	16	16	14	17	16	19	22	15
May	11	13	13	18	12	14	16	14
June	9	21	13	31	18	12	15	21
July	6	10	11	16	11	13	22	24
August	14	24	23	33	25	38	51	56
September	40	49	42	58	49	69	87	64
October	49	64	55	75	55	63	68	81
November	36	39	49	24	32	46	45	49
December	25	28	27	20	34	28	30	28
Totals	257	316	308	359	318	380	432	443

MONTHLY SHIPMENTS OF STOCKER AND FEEDER CATTLE FROM OMAHA—Continued.

(000 omitted)

	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January	23	30	30	35	42	43	32	40
February	24	24	24	20	42	32	27	30
March	20	21	27	29	44	34	33	31
April	22	20	22	32	24	29	31	27
May	16	18	15	16	16	24	32	22
June	11	10	11	13	15	22	19	11
July	15	11	10	10	13	17	18	31
August	39	41	31	28	49	39	45	75
September	73	78	72	75	72	78	91	123
October	98	80	72	104	105	100	80	135
November	38	43	23	70	67	101	65	88
December	38	29	37	44	44	44	44	43
Totals	416	405	375	475	533	561	517	654

YEARLY SHIPMENTS OF STOCKER AND FEEDER SHEEP FROM OMAHA.

(000 omitted)

	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Nebraska	286	326	316	571	474	305	304
Iowa	306	331	294	551	545	483	715
Illinois	263	281	198	279	264	383	275
Missouri	82	34	22	96	94	57	52
Michigan	27	55	66	116	62	50	35
Minnesota	19	28	18	3	9	4	33
Wisconsin	9	6	4	18	23	26	19
Kansas	6	8	19	20	21	10	3
Indiana		6	8	9			
South Dakota	1	5	7	18	10	12	23
Ohio		5	7	8			
Other states	10	2	2	4	17	20	12
Totals	1,010	1,087	960	1,704	1,519	1,350	1,469

YEARLY SHIPMENTS OF STOCKER AND FEEDER SHEEP FROM OMAHA—Continued.

(000 omitted)

	1914.	1915.	1916.	1917.	1918.	1919.
Nebraska	328	273	389	555	463	638
Iowa	434	443	479	538	711	744
Illinois	81	130	70	98	207	140
Missouri	47	56	37	42	54	85
Michigan	14	67	7	8	8	23
Minnesota	26	6	12	22	53	22
Wisconsin	5	10	3	6	9	11
Kansas	3	4	7	4	7	14
Indiana						
South Dakota	12	11	14	20	38	57
Ohio						
Other states	17	67	7	8	15	25
Totals	967	1,067	1,026	1,302	1,566	1,757

MONTHLY SHIPMENTS OF STOCKER AND FEEDER SHEEP FROM OMAHA.

(000 omitted)

	1907.	1908.	1909.	1910.	1911.	1912.	1913.
January	17	17	25	18	29	26	43
February	42	38	30	18	34	23	42
March	79	51	49	37	46	94	47
April	88	72	23	32	33	94	43
May	16	42	4	25	12	21	12
June	7	16	12	19	14	12	2
July	18	19	22	82	30	29	28
August	69	87	110	227	180	132	122
September	250	331	237	479	443	273	504
October	298	221	315	483	470	425	465
November	120	140	100	255	198	154	120
December	28	53	34	28	31	56	40
Totals	1,010	1,087	960	1,704	1,519	1,350	1,469

MONTHLY SHIPMENTS OF STOCKER AND FEEDER SHEEP FROM OMAHA—Continued.

(000 omitted)

	1914.	1915.	1916.	1917.	1918.	1919.
January	35	25	16	18	31	41
February	32	18	23	18	30	23
March	26	5	13	11	28	27
April	20	4	7	7	28	27
May	5	1	1	3	14	18
June	5	10	14	10	17	28
July	81	42	26	46	58	143
August	118	148	170	174	256	433
September	302	378	327	409	545	605
October	317	274	302	357	419	248
November	52	122	91	150	89	78
December	25	39	30	97	51	80
Totals	967	1,067	1,026	1,302	1,566	1,757

SHIPMENTS OF FEEDERS FROM KANSAS CITY.

(000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .							57	36	50	35
Feb. . . .							44	25	47	35
Mar. . . .							45	47	45	25
Apr. . . .							33	27	34	33
May . . .							30	26	28	23
June . . .							30	26	35	16
July . . .							34	32	48	23
Aug. . . .							67	73	62	74
Sep. . . .							108	107	77	117
Oct. . . .							120	115	127	162
Nov. . . .							86	87	87	76
Dec. . . .							54	54	35	63
Totals							708	655	675	682

SHIPMENTS OF FEEDERS FROM KANSAS CITY—Continued.

(000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	58	72	53	56	62	41	86			
Feb. . . .	46	45	32	54	51	54	66			
Mar. . . .	46	47	50	56	49	65	62			
Apr. . . .	34	47	54	41	54	59	84			
May . . .	28	28	33	46	49	62	60			
June . . .	28	27	24	40	55	42	50			
July . . .	56	39	29	42	63	60	41			
Aug. . . .	139	55	56	113	94	120	92			
Sep. . . .	172	114	134	123	132	159	127			
Oct. . . .	161	152	186	178	131	175	167			
Nov. . . .	91	84	161	101	143	141	121			
Dec. . . .	54	69	88	42	66	76	70			
Totals	913	779	900	892	949	1,054	1,026			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

BUREAU OF MARKETS REPORTS ON LIVE STOCK MOVEMENTS.

(000 omitted)

	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Hog receipts at 54 markets	43,112	35,733	44,534	43,780			
Shipments of stocker and feeder hogs from 16 markets	142	640	683	617			
Cattle receipts at 54 markets	17,553	22,210	24,977	24,313			
Shipments of stocker and feeder cattle from 35 markets	3,843	4,705	4,688	4,900			
Sheep receipts at 54 markets	20,434	18,671	21,720	25,862			

At this date, in early 1920, the Bureau of Markets is reporting for about 69 markets. Hog receipts as given are 97 per cent of receipts at 69 markets; cattle, 98 per cent; sheep, 95 per cent, stocker and feeder cattle, 93 per cent; stocker hogs, 69 per cent.

*ARGENTINE WHEAT PRICE.

(Per bushel)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
	$	$	$	$	$	$	$	$	$	$
January	1.13	.92	1.02	.89	1.00	1.24	1.08	1.60	1.44	
February	1.07	.91	.97	.89	1.00	1.42	1.08	1.60	1.48	
March	1.07	.88	.95	.91	.99	1.40	.99	1.66	1.52	1.26
April	1.01	.88	.93	1.04	.97	1.43	.95	1.71	1.52	1.26
May	.91	.91	.89	1.03	1.01	1.50	.87	2.00	1.47	
June	.83	.90	.91	1.04	1.03	1.28	.85	2.18	1.46	
July	1.18	.92	.90	1.04	1.06	1.44	.86	2.20	1.35	
August	.97	.97	.91	1.06	1.07	1.45	1.11	2.05	1.28	1.92
September	.91	1.06	.89	1.08	1.09	1.44	1.21	1.90	1.26	1.92
October	.92	1.06	.91	1.02	1.06	1.38	1.46	1.89	1.28	1.68
November	.89	1.04	.86	1.07	1.12	1.30	1.68	1.82		1.70
December	.86	1.12	.90	1.03	1.13	1.16	1.42	1.37		

*ARGENTINE CORN PRICE.

(Per bushel)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
	$	$	$	$	$	$	$	$	$	$
January	.69	.56	1.04	.52	.55	.52	.55	1.01	.70	.56
February	.68	.55	.94	.51	.55	.58	.58	1.00	.71	.56
March	.66	.53	.63	.52	.56	.56	.53	.94	.69	.49
April	.62	.60	.58	.52	.52	.59	.49	.99		.54
May	.57	.70	.52	.54	.57	.53	.42	1.21		
June	.48	.75	.50	.53	.54	.49	.40	1.38		
July	.51	.87	.49	.51	.56	.49	.44	1.37	.55	
August	.52	.95	.50	.54	.53	.49	.50	1.40	.73	1.13
September	.51	1.01	.48	.60	.50	.48	.52	.93	.70	1.03
October	.49	.99	.49	.58	.45	.50	.67	.85		.85
November	.48	.95	.49	.59	.50	.52	1.05	.86		.85
December	.61	.98	.57	.58	.50	.50	.87	.77		

*Prices for both wheat and corn are taken from the Year Books of the Rosario Board of Trade. Rosario is the Chicago of Argentina. The Argentine unit of weight, the quintal, is taken as equivalent to 3.67 bushels of wheat and 3.936 bushels of corn. The Argentine dollar is taken as equivalent to 42.6 cents. After July of 1918, prices are taken from the International Institute of Agriculture.

EXPORTS OF PORK AND PORK PRODUCTS FROM THE UNITED STATES—IN POUNDS.

(000,000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	119	121	109	162	129	124	104	75	75	99
Feb. . . .	89	97	108	137	115	156	88	66	79	103
Mar. . . .	88	87	121	109	101	135	105	60	85	105
Apr. . . .	68	80	111	120	93	105	83	34	87	86
May . . .	63	76	99	108	95	79	78	92	101	93
June . . .	85	98	106	107	97	83	87	50	97	66
July . . .	80	75	111	114	160	81	63	62	84	72
Aug. . . .	85	83	111	124	114	73	68	69	82	79
Sep. . . .	95	98	99	121	83	82	60	58	107	79
Oct. . . .	93	101	105	94	83	78	55	50	80	66
Nov. . . .	95	88	119	79	88	78	63	51	77	67
Dec. . . .	120	113	158	97	75	112	66	74	97	82
Totals	1,080	1,117	1,357	1,372	1,233	1,186	920	741	1,051	996

EXPORTS OF PORK AND PORK PRODUCTS FROM THE UNITED STATES—IN POUNDS—Continued.

(000,000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	92	102	106	133	199	93	198	135		
Feb. . . .	107	74	119	162	123	114	236			
Mar. . . .	97	70	169	120	168	308	342			
Apr. . . .	83	61	114	134	138	286	349			
May . . .	84	66	89	148	127	281	185			
June . . .	76	67	122	112	103	169	400			
July . . .	82	53	95	77	46	253	241			
Aug. . . .	83	54	90	93	71	170	179			
Sep. . . .	74	59	100	106	79	115	117			
Oct. . . .	77	73	113	95	54	132	116			
Nov. . . .	80	74	108	114	99	123	129			
Dec. . . .	87	74	143	157	90	206	143			
Totals	1,021	828	1,368	1,451	1,298	2,251	2,635			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

EXPORTS OF WHEAT.*

(In bushels—000,000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	16	12	3	10	11	19	8	5	7	6
Feb. . . .	12	8	3	9	9	13	6	3	5	5
Mar. . . .	12	7	3	7	9	9	5	4	6	6
Apr. . . .	15	5	3	7	11	8	4	5	5	5
May . . .	15	4	4	7	13	9	5	5	6	4
June . . .	12	4	3	6	11	9	3	3	4	3
July . . .	10	3	2	7	7	8	4	3	6	3
Aug. . . .	12	4	4	13	10	17	9	5	10	9
Sep. . . .	15	4	7	18	15	18	12	6	11	17
Oct. . . .	16	5	11	17	20	18	14	7	9	21
Nov. . . .	13	5	12	14	21	12	13	7	7	16
Dec. . . .	15	4	16	13	23	11	9	8	8	15

*Flour exports converted into wheat at the rate of four and one-half bushels of wheat to a barrel.

EXPORTS OF WHEAT—Continued.*

(In bushels—000,000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	13	10	32	21	24	12	22			
Feb. . . .	9	8	31	21	14	10	16			
Mar. . . .	9	7	28	24	12	12	20			
Apr. . . .	11	7	29	22	19	12	31			
May . . .	11	11	20	21	16	11	26			
June . . .	9	11	13	12	21	11	33			
July . . .	13	30	12	11	8	11	14			
Aug. . . .	28	28	20	15	10	19	19			
Sep. . . .	18	31	26	18	7	28	25			
Oct. . . .	13	26	24	16	11	25	21			
Nov. . . .	10	26	19	19	11	22	23			
Dec. . . .	11	37	20	19	15	34	15			

*Flour exports converted into wheat at the rate of four and one-half bushels of wheat to a barrel.

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

EXPORTS OF CORN.

(In bushels—000 omitted)

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	11,026	5,059	16,440	27,257	9,151	6,441	6,216	6,105	9,947	7,646
Feb. . . .	13,070	6,842	14,214	17,795	11,446	9,519	5,342	4,547	11,033	7,022
Mar. . . .	15,644	7,879	14,617	12,870	12,277	4,507	4,856	5,229	9,773	5,267
Apr. . . .	10,302	3,139	12,275	8,932	9,656	2,476	4,900	3,628	5,374	1,815
May . . .	5,973	1,388	6,546	5,034	7,446	1,153	1,110	2,131	3,715	830
June . . .	5,903	1,738	4,431	2,648	5,553	737	685	1,997	4,650	687
July . . .	5,185	2,086	4,113	3,173	7,305	430	739	2,181	2,410	747
Aug. . . .	3,180	3,088	4,844	3,185	4,970	391	810	2,390	1,314	561
Sep. . . .	3,707	3,304	5,711	3,388	2,892	523	1,019	3,607	3,778	829
Oct. . . .	7,136	2,563	4,028	6,036	3,770	1,795	2,200	3,587	2,934	1,154
Nov. . . .	5,984	1,325	5,861	4,837	4,131	3,154	2,351	2,018	1,229	1,102
Dec. . . .	4,623	8,098	18,373	7,093	4,545	6,453	5,930	5,206	5,043	3,274

EXPORTS OF CORN—Continued.

(In bushels—000 omitted)

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	11,317	1,148	5,224	3,498	7,253	1,953	1,177			
Feb. . . .	12,307	928	7,855	5,151	6,597	3,203	976			
Mar. . . .	10,109	1,170	8,815	4,837	10,834	7,658	683			
Apr. . . .	5,596	709	9,105	5,107	6,463	8,645	699			
May . . .	1,252	538	3,735	5,536	4,838	3,793	878			
June . . .	743	926	3,845	4,811	3,720	3,279	910			
July . . .	926	560	2,161	5,483	3,146	2,009	588			
Aug. . . .	709	491	959	6,700	2,670	1,850	816			
Sep. . . .	670	1,152	888	3,760	980	2,496	1,210			
Oct. . . .	404	1,052	1,019	3,886	1,602	2,335	868			
Nov. . . .	444	2,153	1,642	2,290	1,622	1,700	962			
Dec. . . .	773	4,781	2,790	2,891	2,445	991	1,525			

Jan. . . .										
Feb. . . .										
Mar. . . .										
Apr. . . .										
May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

IOWA CORN PRICES.

(Prices on farms or nearest shipping point, first of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	.51	.36	.52	.36	.58	.57	.57	.80	1.21	1.36	.684
February	.54	.37	.55	.38	.56	.66	.62	.88	1.21	1.25	.702
March	.52	.37	.56	.39	.56	.65	.61	.92	1.34	1.22	.714
April	.51	.38	.61	.41	.59	.64	.65	1.11	1.36	1.40	.766
May	.48	.41	.69	.45	.59	.68	.66	1.40	1.40	1.54	.830
June	.50	.44	.70	.50	.63	.68	.68	1.46	1.35	1.63	.857
July	.53	.49	.67	.52	.63	.69	.69	1.56	1.37	1.66	.881
August	.55	.56	.65	.54	.64	.71	.73	2.02	1.47	1.84	.971
September	.56	.56	.67	.66	.72	.71	.77	1.65	1.50	1.69	.949
October	.49	.57	.61	.66	.69	.66	.76	1.70	1.38	1.32	.884
November	.39	.57	.50	.60	.61	.59	.78	1.36	1.15	1.11	.766
December	.36	.53	.35	.60	.55	.51	.80	1.08	1.22	1.20	.720
Yearly aver.	.495	.467	.590	.506	.612	.646	.693	1.328	1.330	1.435	.810

IOWA OATS PRICES.

(Prices on farms or nearest shipping point, first of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	.38	.27	.41	.28	.35	.43	.36	.46	.71	.64	.429
February	.41	.27	.44	.28	.34	.48	.43	.51	.76	.54	.446
March	.41	.26	.45	.28	.34	.50	.39	.51	.83	.54	.451
April	.41	.26	.47	.29	.34	.51	.38	.56	.84	.58	.464
May	.37	.27	.51	.30	.34	.50	.38	.63	.82	.64	.476
June	.37	.29	.48	.32	.35	.48	.37	.61	.69	.62	.458
July	.36	.35	.46	.34	.34	.42	.36	.62	.71	.65	.461
August	.35	.35	.33	.34	.31	.43	.35	.68	.67	.70	.451
September	.29	.36	.26	.36	.39	.32	.39	.51	.62	.63	.413
October	.28	.39	.27	.36	.40	.30	.41	.54	.64	.60	.419
November	.27	.41	.28	.34	.39	.31	.45	.54	.62	.61	.422
December	.27	.41	.27	.34	.41	.32	.48	.63	.64	.64	.441
Yearly aver.	.348	.324	.386	.319	.359	.417	.396	.567	.713	.616	.444

IOWA HOG PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	7.80	7.50	5.60	6.90	7.70	6.40	6.20	9.80	15.60	16.40	8.99
February	8.10	6.90	5.70	7.50	8.00	6.20	7.50	11.40	15.30	16.50	9.31
March	9.60	6.40	6.00	8.10	8.10	6.20	9.00	13.80	16.20	17.40	10.08
April	9.50	5.80	7.20	8.50	8.10	6.50	9.00	15.30	16.40	18.70	10.50
May	8.60	5.40	7.10	7.70	7.80	6.90	9.10	15.10	16.60	19.50	10.38
June	8.80	5.40	6.90	8.00	7.50	7.00	8.80	14.80	15.80	19.30	10.23
July	8.20	5.90	6.90	8.30	8.00	6.90	9.10	14.50	16.30	20.80	10.49
August	7.60	6.90	7.60	7.90	8.50	6.40	9.30	15.70	18.00	20.10	10.80
September	8.40	6.60	7.80	7.70	8.30	6.70	9.90	16.90	18.40	15.50	10.62
October	7.90	5.90	8.20	7.60	7.20	7.40	9.00	16.90	17.00	13.40	10.05
November	7.30	5.70	7.20	7.30	6.80	6.10	9.10	15.80	16.40	13.50	9.52
December	6.90	5.60	7.00	7.10	6.50	5.80	9.00	16.20	16.40	12.30	9.28
Yearly aver.	8.23	6.17	6.94	7.72	7.71	6.54	8.75	14.68	16.53	16.95	10.02

IOWA BEEF CATTLE PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	5.40	5.10	5.40	6.50	7.00	6.70	6.90	8.20	9.90	12.40	7.35
February	5.00	5.00	5.40	6.80	7.30	6.50	7.20	8.90	10.30	12.80	7.52
March	5.80	5.00	5.60	7.10	7.40	6.50	7.60	8.70	10.40	13.50	7.76
April	6.20	5.10	6.00	7.40	7.40	6.60	7.70	10.10	11.90	14.10	8.25
May	5.90	4.90	6.20	7.10	7.30	7.00	8.00	10.20	12.70	13.60	8.29
June	5.60	4.90	6.20	7.10	7.40	7.30	8.50	10.30	12.60	11.90	8.18
July	5.30	4.80	6.50	7.20	7.70	7.80	8.20	10.20	12.80	12.30	8.28
August	5.10	5.20	6.80	7.00	7.80	7.40	7.80	10.20	12.30	12.60	8.22
September	5.20	5.00	6.80	7.20	7.70	7.10	8.10	10.60	12.90	11.80	8.24
October	5.00	5.10	6.80	7.10	7.40	7.20	7.80	10.40	11.90	10.10	7.88
November	4.90	5.10	6.40	7.10	7.00	6.80	7.80	10.10	11.90	11.50	7.86
December	4.70	5.20	6.70	6.90	6.90	6.70	7.90	9.70	11.70	11.60	7.80
Yearly aver.	5.34	5.04	6.24	7.04	7.36	6.97	7.79	9.80	11.77	12.35	7.97

IOWA WOOL PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	.26	.19	.17	.19	.17	.18	.24	.30	.59	.59	.288
February	.26	.19	.18	.19	.17	.19	.27	.30	.60	.53	.288
March	.26	.19	.18	.20	.17	.22	.26	.35	.60	.51	.294
April	.24	.18	.18	.19	.17	.23	.28	.39	.60	.52	.298
May	.24	.16	.19	.17	.18	.22	.29	.43	.60	.51	.299
June	.20	.16	.20	.17	.19	.25	.31	.52	.60	.49	.309
July	.21	.16	.20	.18	.20	.25	.30	.57	.61	.54	.322
August	.21	.17	.21	.16	.20	.25	.30	.56	.61	.54	.321
September	.20	.17	.20	.17	.19	.25	.30	.58	.60	.52	.318
October	.19	.17	.20	.17	.19	.26	.30	.56	.59	.50	.313
November	.19	.17	.19	.18	.18	.24	.30	.55	.61	.52	.313
December	.19	.17	.20	.18	.18	.24	.29	.57	.58	.51	.311
Yearly aver.	.221	.174	.192	.179	.183	.232	.287	.474	.599	.525	.307

IOWA BRAN PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	24.30	24.10	25.80	25.10	24.90	26.40	24.50	31.30	39.90	46.80	29.31
February	25.80	24.40	27.60	23.60	25.30	27.00	24.70	33.10	40.40	47.00	29.89
March	26.50	24.00	28.80	23.60	25.90	26.90	24.40	38.00	41.80	47.00	30.69
April	25.60	23.90	28.20	22.90	27.00	26.70	24.30	41.20	41.30	45.20	30.63
May	23.90	24.70	28.60	22.50	26.30	26.70	24.30	42.50	41.40	47.00	30.79
June	24.70	25.10	27.10	22.70	26.00	25.60	24.50	39.30	41.80	45.70	30.25
July	24.50	25.10	26.30	23.00	24.40	25.80	24.20	38.90	41.80	45.50	29.95
August	24.20	25.20	26.10	23.30	25.00	25.50	24.50	41.00	38.30	46.90	30.00
September	23.80	24.80	25.00	24.40	25.80	25.10	25.00	38.50	36.70	47.50	29.66
October	23.50	25.40	25.00	24.70	25.10	24.10	25.80	37.60	37.00	43.80	29.20
November	24.10	25.80	24.30	24.70	24.90	23.30	29.25	37.50	36.30	45.50	29.56
December	23.90	25.90	24.10	24.20	25.20	23.00	30.00	40.70	36.60	46.80	30.04
Yearly aver.	24.56	24.86	26.41	23.74	25.48	25.51	25.45	38.30	39.46	46.22	30.00

ILLINOIS CORN PRICES.

(Prices on farms or nearest shipping point, first of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	.55	.39	.55	.41	.64	.64	.62	.84	1.16	1.34	.714
February	.59	.40	.59	.45	.60	.70	.65	.92	1.25	1.20	.735
March	.59	.40	.60	.46	.60	.68	.65	.98	1.36	1.23	.755
April	.57	.40	.65	.47	.64	.69	.65	1.09	1.30	1.42	.788
May	.54	.43	.74	.51	.63	.74	.69	1.47	1.33	1.56	.864
June	.54	.47	.77	.55	.68	.73	.69	1.54	1.25	1.67	.889
July	.57	.51	.73	.58	.68	.72	.70	1.60	1.32	1.74	.915
August	.58	.58	.71	.61	.72	.76	.76	2.06	1.39	1.89	1.016
September	.57	.60	.72	.73	.78	.73	.80	1.72	1.47	1.84	.996
October	.51	.61	.66	.71	.74	.68	.80	1.80	1.39	1.41	.930
November	.43	.60	.50	.64	.67	.57	.84	1.42	1.18	1.24	.809
December	.38	.55	.41	.63	.61	.54	.84	1.10	1.20	1.30	.756
Yearly aver.	.535	.495	.636	.563	.666	.681	.724	1.378	1.300	1.487	.847

ILLINOIS OATS PRICES.

(Prices on farms or nearest shipping point, first of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	
January	.41	.29	.43	.30	.37	.45	.38	.49	.72	.67	.45
February	.44	.30	.45	.31	.37	.52	.46	.53	.77	.56	.47
March	.45	.29	.48	.32	.37	.52	.40	.54	.86	.56	.48
April	.43	.29	.51	.31	.38	.55	.39	.60	.86	.61	.49
May	.41	.30	.54	.31	.37	.54	.41	.67	.83	.67	.51
June	.40	.31	.52	.35	.38	.50	.39	.61	.71	.66	.48
July	.39	.38	.49	.37	.36	.44	.37	.62	.71	.66	.48
August	.36	.36	.34	.37	.35	.40	.36	.68	.66	.74	.46
September	.31	.39	.30	.39	.42	.33	.40	.51	.66	.68	.44
October	.30	.41	.30	.39	.43	.31	.41	.56	.67	.64	.44
November	.31	.42	.30	.37	.44	.33	.48	.56	.63	.63	.45
December	.30	.42	.30	.38	.44	.35	.51	.65	.67	.70	.47
Yearly aver.	.376	.347	.414	.348	.390	.437	.414	.585	.729	.701	.47

ILLINOIS HOG PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	8.10	7.40	5.80	6.90	7.70	6.40	6.40	9.80	15.60	16.20	9.03
February	8.20	7.00	5.80	7.50	8.10	6.20	7.40	11.30	15.30	16.30	9.31
March	9.50	6.50	6.00	8.10	8.10	6.30	8.90	13.70	16.30	17.00	10.04
April	9.70	6.00	7.10	8.50	8.10	6.60	8.80	14.90	16.40	18.40	10.45
May	8.90	6.50	7.10	7.80	7.80	7.00	8.90	14.80	16.60	19.10	10.35
June	8.70	5.50	6.90	8.00	7.50	7.00	8.80	14.60	16.00	19.00	10.20
July	8.40	6.00	6.90	8.30	8.10	7.10	9.00	14.50	16.20	20.50	10.50
August	7.90	6.80	7.50	8.20	8.80	6.80	9.40	15.70	17.80	20.40	10.93
September	8.70	6.70	8.00	8.10	8.40	7.10	10.00	16.90	18.50	16.10	10.85
October	8.30	6.00	8.30	7.90	7.40	7.50	9.10	17.00	17.10	13.60	10.22
November	7.50	5.70	7.20	7.30	7.00	6.30	9.10	15.80	16.30	13.40	9.56
December	7.00	5.70	7.00	7.10	6.60	6.00	9.10	16.20	16.30	12.20	9.32
Yearly aver.	8.41	6.24	6.97	7.81	7.80	6.69	8.74	14.60	16.53	16.85	10.07

ILLINOIS BEEF CATTLE PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	4.40	4.90	5.10	6.10	6.80	6.50	6.50	7.90	9.50	11.70	6.94
February	5.10	4.90	5.10	6.30	7.00	6.40	6.50	8.50	9.50	11.70	7.10
March	5.00	5.00	5.30	6.80	7.00	6.40	7.10	9.00	10.10	12.10	7.38
April	5.50	5.00	5.60	6.80	7.00	6.50	7.40	9.60	12.00	12.50	7.79
May	5.70	4.80	6.00	6.50	7.10	6.70	7.50	9.60	11.70	12.50	7.81
June	5.40	4.80	6.10	6.80	7.00	7.00	7.80	9.60	11.90	11.40	7.78
July	5.20	4.90	6.40	6.70	7.00	7.20	7.80	9.40	11.70	11.90	7.82
August	5.00	5.20	6.30	6.70	7.50	7.10	7.70	9.40	11.30	11.80	7.80
September	5.20	5.10	6.50	6.70	7.40	7.00	8.00	10.40	11.70	10.20	7.82
October	5.10	4.80	6.40	6.80	7.20	7.00	7.40	10.10	11.00	10.00	7.58
November	4.90	5.10	6.10	6.60	7.10	6.50	7.50	9.40	10.50	10.00	7.37
December	4.80	5.00	6.10	6.50	6.80	6.50	7.50	9.70	11.30	10.10	7.43
Yearly aver.	5.11	4.96	5.92	6.61	7.08	6.74	7.39	9.39	11.01	11.32	7.55

ILLINOIS WOOL PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	.29	.20	.17	.21	.16	.20	.26	.32	.58	.59	.298
February	.28	.20	.18	.21	.17	.21	.26	.32	.59	.60	.302
March	.27	.19	.18	.21	.17	.21	.28	.35	.60	.56	.302
April	.24	.18	.18	.20	.17	.22	.27	.37	.60	.56	.299
May	.26	.16	.20	.17	.18	.24	.30	.44	.61	.44	.300
June	.22	.17	.20	.17	.20	.26	.32	.53	.61	.50	.318
July	.21	.17	.20	.17	.20	.27	.32	.56	.62	.53	.325
August	.23	.17	.20	.17	.20	.27	.31	.57	.62	.54	.328
September	.20	.18	.21	.18	.20	.28	.31	.55	.61	.50	.322
October	.20	.17	.20	.17	.20	.27	.32	.58	.62	.51	.324
November	.20	.17	.20	.16	.19	.26	.31	.58	.62	.51	.320
December	.21	.17	.21	.17	.20	.26	.32	.60	.61	.53	.328
Yearly aver.	.234	.178	.194	.183	.187	.246	299	.481	.608	.531	.314

The price of 44 cents in May of 1919 is probably a mistake, altho it is the price as reported by the Bureau of Crop Estimates.

ILLINOIS BRAN PRICES.

(Prices on farms or nearest shipping point, fifteenth of each month.)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	23.90	23.30	25.80	24.10	25.70	26.70	25.10	31.90	40.50	48.70	29.57
February	26.20	23.80	27.70	24.10	26.40	27.20	25.00	34.40	40.80	49.40	30.50
March	25.60	24.00	27.00	23.60	26.50	26.90	24.30	37.70	42.70	46.70	30.50
April	25.70	23.80	27.80	23.30	27.00	27.20	24.40	41.20	42.40	48.00	31.08
May	25.30	24.20	27.80	23.50	26.70	27.80	24.60	43.60	42.20	47.10	31.28
June	24.90	24.10	26.90	23.10	26.50	25.90	24.40	38.30	42.90	46.60	30.36
July	24.40	24.00	25.80	23.00	24.20	25.90	24.00	40.00	40.00	46.80	29.81
August	23.50	24.30	25.40	23.50	26.00	25.70	24.60	41.90	37.50	48.10	30.05
September	23.20	23.90	25.40	25.70	26.00	24.70	26.00	37.00	38.90	48.10	29.89
October	22.20	24.60	25.50	25.30	25.60	24.70	26.80	36.30	37.00	46.10	29.41
November	22.80	24.80	24.50	25.20	25.20	24.90	30.50	38.00	38.00	47.00	30.09
December	22.80	25.40	24.50	25.00	24.80	24.30	31.40	41.50	38.40	47.10	30.52
Yearly aver.	24.11	24.08	26.07	24.10	25.88	25.99	25.92	38.48	40.11	47.47	30.22

FARM PRICES OF BUTTER.

(Per pound, average for all United States—first of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.278	.281	.284	.292	.287	.283	.340	.431	.549	.613
February	.241	.290	.276	.274	.279	.276	.335	.437	.496	
March	.227	.272	.275	.260	.268	.271	.341	.434	.438	
April	.226	.261	.276	.249	.258	.276	.335	.407	.476	
May	.214	.260	.270	.238	.257	.279	.361	.399	.503	
June	.203	.248	.255	.228	.248	.265	.350	.386	.491	
July	.204	.234	.247	.229	.242	.257	.335	.382	.472	
August	.217	.237	.249	.237	.242	.261	.340	.397	.482	
September	.231	.242	.259	.253	.245	.274	.361	.414	.497	
October	.238	.256	.275	.260	.253	.290	.389	.472	.515	
November	.252	.269	.282	.263	.264	.311	.409	.497	.560	
December	.274	.288	.292	.284	.276	.344	.419	.527	.600	

FARM PRICES OF EGGS.

(Per dozen, average of all United States—first of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.304	.295	.268	.307	.316	.306	.377	.463	.572	.648
February	.221	.291	.228	.284	.292	.268	.358	.494	.483	
March	.165	.245	.194	.242	.213	.212	.338	.404	.331	
April	.149	.178	.164	.176	.166	.179	.259	.312	.343	
May	.147	.171	.161	.168	.171	.181	.300	.310	.368	
June	.145	.167	.169	.173	.166	.190	.311	.298	.386	
July	.142	.167	.170	.176	.168	.197	.283	.307	.368	
August	.155	.174	.172	.182	.170	.207	.298	.344	.393	
September	.174	.191	.195	.210	.187	.233	.332	.364	.410	
October	.200	.220	.234	.235	.223	.281	.374	.416	.447	
November	.235	.259	.274	.253	.263	.322	.394	.472	.540	
December	.287	.297	.330	.297	.306	.381	.433	.550	.619	

FARM PRICES OF POTATOES.

(Per bushel, average of all United States—first of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.541	.845	.506	.684	.497	.706	1.473	1.210	1.161	1.786
February	.551	.944	.531	.697	.504	.880	1.724	1.229	1.144	
March	.553	1.020	.520	.707	.504	.944	2.407	1.203	1.094	
April	.555	1.171	.503	.700	.478	.976	2.347	.926	1.054	
May	.625	1.273	.482	.714	.505	.948	2.796	.801	1.189	
June	.633	1.197	.552	.713	.508	.988	2.740	.755	1.214	
July	.963	1.036	.498	.815	.521	1.023	2.479	.949	1.284	
August	1.360	.865	.692	.871	.563	.954	1.708	1.416	1.928	
September	1.137	.650	.753	.749	.505	1.093	1.391	1.488	1.875	
October	.883	.511	.739	.647	.488	1.120	1.221	1.436	1.642	
November	.763	.455	.696	.528	.608	1.357	1.278	1.272	1.528	
December	.799	.505	.687	.487	.617	1.461	1.228	1.192	1.614	

RETAIL PRICES OF SIRLOIN.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.202	.207	.238	.250	.253	.256	.276	.326	.410	.405
February	.202	.207	.238	.250	.248	.256	.286	.331	.410	
March	.202	.213	.245	.253	.245	.263	.293	.336	.417	
April	.202	.220	.256	.253	.250	.268	.316	.364	.435	
May	.204	.235	.256	.258	.256	.276	.321	.397	.443	
June	.204	.240	.258	.261	.261	.286	.326	.425	.430	
July	.207	.243	.263	.268	.266	.286	.326	.420	.433	
August	.207	.245	.263	.278	.263	.283	.329	.412	.420	
September	.204	.243	.261	.271	.263	.281	.331	.415	.409	
October	.202	.240	.256	.261	.261	.273	.329	.407	.398	
November	.202	.235	.253	.253	.256	.268	.314	.402	.393	
December	.202	.233	.250	.256	.250	.268	.319	.402	.391	

RETAIL PRICES OF ROUND STEAK.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.172	.177	.203	.225	.225	.225	.245	.303	.387	.370
February	.172	.177	.206	.225	.221	.225	.259	.312	.385	
March	.175	.179	.212	.228	.219	.230	.263	.316	.391	
April	.175	.188	.219	.228	.221	.239	.287	.343	.402	
May	.175	.201	.221	.232	.228	.248	.294	.376	.413	
June	.177	.206	.223	.234	.232	.259	.298	.402	.400	
July	.177	.206	.230	.241	.236	.256	.303	.400	.404	
August	.177	.210	.230	.250	.236	.254	.305	.393	.391	
September	.170	.206	.230	.243	.234	.254	.294	.393	.379	
October	.175	.203	.230	.236	.230	.245	.305	.387	.369	
November	.172	.199	.225	.232	.225	.239	.294	.382	.362	
December	.172	.199	.223	.228	.223	.236	.296	.378	.359	

RETAIL PRICES OF RIB ROASTS.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.166	.168	.188	.198	.200	.200	.216	.257	.327	.314
February	.168	.170	.188	.200	.198	.202	.226	.263	.327	
March	.168	.172	.194	.200	.196	.206	.234	.267	.335	
April	.170	.180	.200	.202	.198	.210	.251	.293	.347	
May	.168	.192	.200	.202	.200	.218	.257	.319	.352	
June	.168	.196	.202	.204	.204	.224	.261	.335	.339	
July	.168	.194	.202	.208	.206	.222	.257	.333	.325	
August	.168	.196	.202	.214	.206	.220	.255	.327	.312	
September	.168	.192	.200	.208	.204	.218	.259	.327	.312	
October	.168	.190	.200	.206	.202	.214	.257	.323	.306	
November	.166	.188	.198	.204	.200	.210	.251	.321	.302	
December	.166	.184	.198	.200	.198	.210	.253	.319	.303	

RETAIL PRICES OF PORK CHOPS.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.184	.171	.188	.209	.186	.188	.238	.344	.407	.373
February	.181	.162	.190	.211	.179	.194	.264	.338	.380	
March	.181	.173	.205	.211	.179	.219	.281	.340	.388	
April	.175	.192	.217	.217	.198	.226	.308	.359	.416	
May	.175	.194	.211	.224	.209	.230	.308	.369	.433	
June	.175	.192	.209	.217	.207	.232	.312	.377	.426	
July	.179	.194	.217	.224	.211	.234	.319	.380	.464	
August	.190	.211	.219	.251	.217	.245	.346	.424	.471	
September	.192	.222	.228	.238	.226	.264	.390	.464	.460	
October	.188	.222	.226	.232	.232	.249	.390	.456	.443	
November	.169	.196	.215	.219	.209	.234	.348	.435	.421	
December	.162	.181	.205	.196	.184	.224	.340	.416	.381	

RETAIL PRICES OF BACON.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.257	.235	.257	.268	.276	.276	.300	.491	.592	.504
February	.254	.232	.259	.268	.270	.276	.311	.489	.560	
March	.251	.232	.265	.270	.268	.281	.336	.494	.554	
April	.248	.240	.270	.270	.268	.284	.385	.500	.579	
May	.248	.243	.273	.270	.268	.287	.423	.511	.573	
June	.248	.246	.276	.273	.270	.292	.431	.521	.579	
July	.251	.246	.284	.276	.273	.292	.434	.530	.587	
August	.254	.248	.287	.292	.273	.295	.437	.546	.584	
September	.251	.257	.284	.295	.273	.300	.448	.568	.556	
October	.248	.265	.281	.289	.276	.300	.486	.584	.528	
November	.240	.265	.276	.284	.276	.303	.489	.590	.510	
December	.238	.262	.270	.281	.276	.300	.494	.592	.503	

RETAIL PRICES OF HAM.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.236	.231	.247	.260	.261	.269	.303	.431	.529	.503
February	.236	.229	.250	.263	.255	.271	.314	.434	.513	
March	.234	.229	.258	.263	.253	.277	.333	.436	.508	
April	.234	.237	.263	.263	.250	.285	.362	.442	.524	
May	.234	.239	.263	.263	.253	.290	.383	.452	.524	
June	.239	.242	.271	.266	.258	.293	.386	.460	.545	
July	.245	.245	.277	.274	.261	.295	.391	.481	.561	
August	.247	.245	.282	.287	.261	.295	.391	.479	.564	
September	.245	.247	.277	.287	.258	.303	.404	.513	.552	
October	.239	.250	.271	.279	.263	.303	.423	.513	.524	
November	.234	.250	.266	.271	.266	.303	.423	.519	.505	
December	.231	.247	.263	.266	.266	.303	.428	.527	.499	

RETAIL PRICES OF LARD.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.155	.136	.153	.158	.153	.147	.215	.329	.333	.340
February	.155	.136	.155	.156	.153	.149	.218	.330	.321	
March	.145	.136	.156	.156	.152	.152	.239	.332	.333	
April	.139	.141	.158	.156	.152	.158	.264	.330	.352	
May	.136	.147	.158	.155	.152	.167	.278	.329	.389	
June	.134	.149	.158	.153	.150	.171	.280	.325	.401	
July	.133	.149	.160	.153	.147	.174	.275	.325	.420	
August	.134	.150	.161	.156	.141	.175	.278	.330	.420	
September	.137	.155	.161	.156	.139	.186	.297	.337	.382	
October	.137	.160	.160	.155	.144	.194	.313	.341	.361	
November	.137	.160	.160	.156	.145	.213	.327	.341	.364	
December	.136	.158	.198	.153	.145	.216	.333	.341	.349	

RETAIL PRICES OF WHEAT FLOUR.

(Per eighth barrel—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.835	.827	.803	.787	.996	.964	1.373	1.614	1.606	1.968
February	.819	.835	.803	.795	1.108	1.004	1.373	1.614	1.630	
March	.811	.835	.803	.795	1.092	.964	1.397	1.614	1.554	
April	.803	.843	.803	.795	1.100	.956	1.654	1.614	1.751	
May	.803	.875	.811	.795	1.116	.956	2.136	1.614	1.823	
June	.803	.883	.811	.795	1.044	.940	1.975	1.630	1.823	
July	.803	.875	.811	.787	1.004	.931	1.767	1.630	1.823	
August	.811	.859	.803	.851	.996	1.076	1.839	1.654	1.799	
September	.811	.843	.803	.907	.940	1.188	1.791	1.654	1.775	
October	.827	.827	.795	.891	.907	1.245	1.718	1.630	1.775	
November	.827	.819	.795	.899	.907	1.397	1.670	1.630	1.799	
December	.827	.803	.795	.907	.915	1.341	1.646	1.630	1.871	

RETAIL PRICES OF CORN MEAL.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.270	.284	.287	.302	.316	.310	.383	.676	.600	.660
February	.270	.284	.284	.299	.319	.313	.394	.676	.580	
March	.267	.284	.284	.299	.319	.310	.397	.696	.574	
April	.270	.290	.284	.299	.316	.313	.447	.687	.580	
May	.270	.299	.284	.299	.316	.313	.516	.676	.600	
June	.270	.302	.284	.299	.316	.313	.528	.647	.609	
July	.273	.302	.284	.299	.313	.313	.566	.637	.629	
August	.276	.302	.290	.305	.313	.319	.635	.658	.638	
September	.278	.302	.296	.316	.313	.328	.789	.667	.670	
October	.281	.305	.299	.316	.313	.339	.673	.658	.660	
November	.281	.299	.302	.316	.310	.365	.682	.629	.660	
December	.281	.290	.302	.310	.310	.380	.682	.618	.660	

RETAIL PRICES OF EGGS.

(Per dozen—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.398	.429	.365	.425	.436	.415	.534	.659	.737	
February	.316	.392	.309	.358	.331	.341	.496	.598	.497	
March	.267	.269	.259	.303	.246	.277	.341	.432	.473	
April	.243	.258	.247	.250	.253	.267	.378	.415	.483	
May	.239	.253	.258	.262	.256	.277	.392	.415	.521	
June	.242	.259	.273	.276	.263	.294	.402	.415	.524	
July	.261	.278	.292	.296	.273	.314	.412	.479	.554	
August	.286	.303	.323	.326	.297	.354	.452	.523	.588	
September	.317	.341	.368	.361	.341	.405	.513	.574	.619	
October	.355	.382	.408	.381	.395	.446	.540	.628	.706	
November	.426	.439	.486	.442	.449	.503	.567	.727	.794	
December	.443	.412	.466	.469	.456	.520	.621	.794		

RETAIL PRICES OF BUTTER.

(Per pound—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.365	.431	.411	.400	.388	.386	.454	.569	.708	
February	.343	.400	.415	.360	.377	.381	.469	.581	.574	
March	.330	.371	.415	.352	.361	.404	.465	.554	.670	
April	.303	.378	.408	.331	.361	.415	.512	.508	.716	
May	.296	.367	.361	.328	.350	.373	.469	.512	.681	
June	.298	.340	.353	.337	.346	.365	.473	.512	.635	
July	.308	.338	.350	.343	.346	.358	.462	.527	.631	
August	.326	.342	.356	.363	.338	.365	.477	.542	.643	
September	.337	.360	.379	.379	.338	.392	.496	.596	.662	
October	.359	.377	.384	.378	.354	.419	.512	.654	.716	
November	.385	.392	.388	.396	.365	.438	.531	.670	.758	
December	.411	.415	.400	.396	.388	.454	.546	.731		

RETAIL PRICES OF MILK.

(Per quart—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.088	.088	.091	.092	.091	.091	.102	.137	.160	
February	.088	.088	.091	.092	.091	.091	.102	.137	.158	
March	.088	.088	.091	.092	.090	.091	.102	.137	.151	
April	.087	.088	.090	.091	.090	.090	.104	.135	.154	
May	.085	.088	.090	.091	.090	.090	.107	.135	.152	
June	.085	.088	.090	.090	.090	.090	.108	.132	.154	
July	.085	.088	.090	.090	.090	.091	.114	.136	.154	
August	.085	.088	.090	.091	.090	.091	.117	.140	.159	
September	.086	.088	.091	.091	.090	.092	.120	.146	.160	
October	.087	.090	.091	.091	.091	.095	.130	.151	.164	
November	.088	.091	.092	.091	.091	.099	.131	.158	.167	
December	.088	.091	.092	.091	.091	.101	.134	.160		

RETAIL PRICES OF POTATOES

(Per peck—fifteenth of each month.)

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$	$	$	$	$	$	$	$	$	$
January	.259	.378	.236	.280	.220	.352	.583	.486	.487	
February	.259	.393	.234	.280	.218	.365	.492	.486	.471	
March	.259	.422	.228	.277	.212	.363	.769	.380	.443	
April	.275	.468	.226	.272	.222	.332	.878	.334	.471	
May	.313	.438	.237	.290	.230	.363	.912	.334	.502	
June	.427	.438	.269	.341	.256	.433	.948	.442	.580	
July	.510	.329	.285	.401	.220	.347	.637	.593	.730	
August	.420	.287	.282	.287	.212	.365	.534	.593	.761	
September	.357	.246	.285	.271	.204	.417	.445	.593	.655	
October	.311	.235	.274	.230	.243	.427	.461	.534	.580	
November	.318	.232	.277	.214	.251	.513	.474	.502	.593	
December	.339	.259	.275	.217	.275	.513	.461	.487		

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Nov.										
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Totals										

PACKERS' CHICAGO HAM PRICES.*

(No. 1 Reg., Smoked, 16 pounds.)

(Per hundredweight)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	14.80	13.70	12.70	15.20	15.30	14.70	16.20	19.70	30.00	37.00	18.93
February . . .	15.60	13.70	12.70	15.50	15.30	13.70	16.20	20.50	30.50	34.00	18.77
March	17.60	12.00	13.30	15.80	15.20	13.30	17.30	22.50	30.50	35.50	19.30
April	17.60	11.90	13.40	16.50	14.80	13.00	18.00	25.00	31.50	37.50	19.92
May	16.80	13.50	13.40	17.00	14.80	14.00	18.20	25.30	31.50	38.50	20.30
June	17.20	14.50	13.40	17.60	16.60	14.70	17.70	25.30	30.00	38.50	20.55
July	17.20	15.30	13.50	17.80	16.60	14.70	17.70	25.30	31.00	39.00	20.91
August	15.60	15.30	14.50	17.80	18.20	14.10	18.50	24.50	33.25	39.00	21.07
September . . .	15.40	15.00	14.70	17.00	18.30	14.10	18.70	26.30	33.25	37.00	20.97
October	15.20	14.00	15.40	16.00	16.30	15.70	19.30	28.30	34.50	33.50	20.82
November . . .	14.30	13.00	15.20	15.10	15.00	15.70	19.40	28.00	37.00	29.25	20.19
December . . .	13.70	13.00	15.20	15.10	15.00	15.70	19.60	28.00	37.50	29.25	20.20
Yearly aver.	15.92	13.74	13.95	16.37	15.95	14.45	18.07	24.89	32.54	35.66	20.15

*These figures, previous to 1917, were taken from charts furnished by Dr. L. D. H. Weld, of Swift & Company. Since 1917, the source has been the Daily Trade Bulletin of Howard Bartels. The top price for the month is used in every case.

PACKERS' CHICAGO BACON PRICES.*

(No. 1 Bacon, smoked, 10-12 pounds.)

(Per hundredweight)

	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Ten-yr. av.
	$	$	$	$	$	$	$	$	$	$	$
January	16.30	17.00	12.50	16.30	16.20	17.20	15.40	21.00	36.50	44.00	21.24
February . . .	17.00	16.40	12.50	17.00	17.00	16.30	16.40	23.50	37.00	38.50	21.16
March	20.20	15.40	14.20	17.50	17.20	15.30	18.50	26.40	38.50	40.00	22.32
April	20.10	15.30	14.70	17.80	17.20	15.00	19.70	30.60	39.50	40.00	22.99
May	20.00	15.30	14.70	18.70	17.20	15.60	19.70	33.30	39.25	41.50	23.52
June	21.50	15.30	14.80	18.70	17.70	16.60	19.10	33.30	39.00	41.50	23.75
July	21.50	15.30	14.80	18.70	18.60	16.60	19.00	31.20	39.00	41.00	23.57
August	19.70	15.50	15.70	18.70	20.40	16.20	19.00	33.50	42.50	41.00	24.22
September . . .	20.80	15.50	16.30	17.60	20.40	17.00	19.10	35.70	42.50	37.50	24.24
October	20.80	14.20	17.50	17.20	20.30	17.70	19.10	36.70	45.50	35.50	24.45
November . . .	20.80	13.70	17.50	17.00	19.70	17.70	19.10	35.50	47.00	33.00	24.10
December . . .	18.00	13.40	17.00	17.10	19.00	16.70	19.00	35.40	47.50	33.00	23.61
Yearly aver.	19.72	15.19	15.19	17.69	18.41	16.49	18.59	31.34	41.15	38.87	23.26

*These figures, previous to 1917, were taken from charts furnished by Dr. L. D. H. Weld, of Swift & Company. Since 1917, the source has been the Daily Trade Bulletin of Howard Bartels. The top price for the month is used in every case.

PRICES OF COTTONSEED MEAL AT MEMPHIS.

(Per ton, in car lots)

	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
	$	$	$	$	$	$	$	$	$	$	$
January	22.50	23.50	29.63	24.13	24.25	25.38	26.50	24.25	32.75	37.50	46.50
February	22.50	23.63	29.50	23.25	25.13	24.88	26.13	27.25	29.00	36.25	46.50
March	22.63	24.25	28.50	23.38	26.00	25.13	26.75	26.88	28.38	35.75	46.50
April	23.25	26.25	28.00	23.88	27.25	26.75	27.75	26.88	28.87	38.00	46.50
May	23.38	27.50	27.13	23.88	28.00	28.00	27.75	25.75	28.12	40.50	46.50
June	23.75	28.50	27.13	24.50	27.00	28.75	27.50	25.00	26.75	40.50	46.50
July	24.00	29.00	26.50	25.38	26.75	30.63	27.25	25.63	26.75	42.00	46.50
August	24.50	28.25	26.00	26.50	26.75	31.75	28.00	25.75	28.75	44.00	46.50
September	24.00	27.50	25.75	25.00	25.00	27.25	23.75	27.13	30.75	42.00	46.50
October	23.75	27.38	25.25	24.63	24.38	27.13	22.75	30.75	35.25	44.00	46.50
November	23.63	28.50	24.38	24.63	24.63	27.38	22.38	32.00	39.25	47.00	
December	23.63	28.50	24.38	24.38	25.75	27.25	23.75	33.75	39.00	46.50	

Previous to February, 1916, the price is for 41 per cent protein meal. From February, 1916, to November, 1917, the price is for 38.5 per cent protein meal, and from December, 1917, on, the price is the government fixed price for 36 per cent protein meal. Quotations are averages of high and low for month, taken from the News-Scimetar of Memphis.

AVERAGE PRICES OF MILL-FEEDS, 1908-1915.

(Per ton)

	41 per ct. protein cottonseed meal at Memphis.	Cottonseed meal at Milwaukee.*	Oil meal at Milwaukee.*	Hominy feed at Milwaukee.*	Bran at Milwaukee.*	Brown middlings at Milwaukee.*
January	$ 25.00	$ 29.76	$ 33.42	$ 26.06	$ 23.20	$ 23.31
February	25.28	29.44	33.60	25.50	23.39	23.14
March	25.44	29.14	32.15	24.61	23.32	23.09
April	26.25	29.49	31.05	24.52	22.88	23.08
May	26.42	30.90	30.64	24.93	22.37	23.25
June	26.52	29.54	30.67	25.20	20.57	22.68
July	26.95	30.05	31.77	25.41	20.66	23.20
August	27.19	29.74	32.86	26.75	21.45	23.96
September	25.67	29.19	33.33	27.46	21.24	22.96
October	25.75	29.82	32.62	25.81	20.58	22.11
November	25.94	30.05	33.09	24.52	21.81	21.43
December	26.42	30.20	33.31	25.46	21.68	21.80
Yearly aver.	26.06	29.74	32.38	25.53	21.93	22.83

*The Milwaukee prices were compiled by Professor F. A. Pearson, of the University of Illinois, from the reports of the Western Feed Bureau.

BRAN AT MINNEAPOLIS.

(Per ton)

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Jan.	$15.38	$17.63	$21.25	$20.38	$22.50	$21.63	$23.88	$19.00	$21.50	$22.50
Feb.	15.25	18.68	21.50	22.13	22.00	20.75	25.00	18.25	22.38	22.25
Mar.	14.88	18.88	22.63	22.13	20.25	20.63	24.50	16.50	24.00	20.63
Apr.	16.13	17.88	22.50	22.50	18.38	21.75	24.38	15.88	23.25	21.63
May	16.25	18.25	22.75	23.75	17.38	20.63	22.75	16.63	21.63	19.75
June	15.38	17.88	20.63	21.63	16.25	19.00	20.25	16.75	19.75	19.75
July	14.13	17.38	20.00	20.25	18.75	19.25	20.00	16.50	18.50	20.38
Aug.	13.63	19.13	19.88	19.13	19.13	20.13	19.00	19.25	21.13	19.63
Sep.	14.88	21.50	19.88	19.13	18.13	20.75	19.00	20.63	20.50	18.13
Oct.	16.38	23.25	19.50	18.88	17.38	21.38	18.63	19.13	18.88	17.75
Nov.	17.88	21.00	19.50	19.25	18.88	21.88	17.75	19.50	20.63	18.25
Dec.	17.80	20.38	19.50	20.63	20.25	22.33	18.25	20.25	20.88	18.50

BRAN AT MINNEAPOLIS—Continued.

(Per ton)

	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
Jan.	$19.13	$28.50	$34.00	$45.25						
Feb.	19.25	32.00	36.25	38.50						
Mar.	17.63	35.00	36.00	37.20						
Apr.	18.25	38.25	33.25	38.00						
May	18.63	36.50	31.38	36.00						
June	18.13	25.50	31.38	34.25						
July	17.88	33.25	29.23	39.75						
Aug.	19.88	31.75	29.73	41.25						
Sep.	21.50	29.50	29.15	38.25						
Oct.	25.00	30.50	28.90	37.00						
Nov.	26.63	34.38	28.39	38.00						
Dec.	25.38	36.25	37.87	41.00						

Jan.										
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Nov.										
Dec.										
Totals										

MIDDLINGS AT MINNEAPOLIS.

(Per ton)

(Minneapolis middlings are evidently a lower grade than Kansas City shorts.)

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Jan. . . .	$15.38	$16.75	$20.63	$20.25	$22.13	$21.00	$23.38	$19.13	$21.13	$22.00
Feb. . . .	15.38	17.80	21.13	22.00	21.88	20.50	24.88	18.13	21.50	22.13
Mar. . . .	14.88	18.25	22.50	22.13	20.50	20.00	24.38	17.13	22.75	20.63
Apr. . . .	16.13	17.88	22.75	22.50	18.50	21.00	24.38	16.38	22.88	22.63
May . . .	16.38	19.00	22.88	23.88	18.75	21.25	23.75	17.38	22.13	22.88
June . . .	15.50	18.88	20.63	22.25	17.88	20.50	22.75	18.63	21.25	23.13
July . . .	15.88	19.25	20.50	20.75	20.50	21.88	23.25	18.63	21.00	25.13
Aug. . . .	15.38	21.25	21.75	20.13	21.00	23.50	22.25	20.50	23.50	12.25
Sep. . . .	15.88	23.50	20.75	19.00	19.50	23.88	21.75	22.63	21.50	20.00
Oct. . . .	16.75	24.00	19.50	18.63	19.25	23.38	20.00	21.63	19.00	18.50
Nov. . . .	17.75	21.00	19.25	19.00	20.38	22.75	17.63	21.25	20.50	18.13
Dec. . . .	17.13	20.00	19.38	20.38	21.50	22.38	18.13	20.50	21.00	18.33

MIDDLINGS AT MINNEAPOLIS—Continued.

(Per ton)

(Minneapolis middlings are evidently a lower grade than Kansas City shorts.)

	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
Jan. . . .	$19.88	$29.00	$35.25	$46.00						
Feb. . . .	21.00	31.25	38.00	39.75						
Mar. . . .	19.50	35.50	37.75	38.75						
Apr. . . .	19.00	39.00	35.25	42.25						
May . . .	20.00	36.00	33.25	45.00						
June . . .	19.50	32.25	33.25	43.50						
July . . .	19.13	40.00	30.85	50.00						
Aug. . . .	21.00	39.75	31.71	54.00						
Sep. . . .	23.50	34.00	31.26	51.00						
Oct. . . .	27.25	36.50	30.81	44.00						
Nov. . . .	30.00	34.50	30.21	41.50						
Dec. . . .	27.50	37.75	40.24	42.25						

Jan. . . .										
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Mar. . . .										
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June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

BRAN AT KANSAS CITY.

(Per ton)

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Jan. . . .	$15.70	$17.70	$20.40	$19.60	$22.10	$20.10	$24.50	$19.00	$21.50	$21.90
Feb. . . .	16.20	18.30	21.50	21.80	22.40	19.90	26.30	19.30	23.45	21.10
Mar. . . .	16.70	18.30	22.30	22.80	21.50	20.10	25.90	17.00	23.50	20.90
Apr. . . .	17.40	17.30	22.10	24.30	20.90	21.56	27.70	16.70	24.00	23.40
May . . .	16.60	18.80	22.20	26.10	19.90	21.50	26.10	16.30	22.00	21.20
June . . .	15.50	18.90	20.20	23.80	17.10	19.40	22.00	16.40	19.00	18.80
July . . .	14.00	16.40	19.50	20.20	17.60	20.70	20.00	16.10	17.40	19.60
Aug. . . .	13.50	18.50	19.30	18.50	18.40	20.40	18.50	20.20	20.80	18.50
Sep. . . .	14.45	21.20	19.00	18.80	17.80	20.70	18.40	22.10	19.50	17.20
Oct. . . .	16.15	22.60	18.60	20.20	17.20	21.70	18.15	20.20	18.10	17.60
Nov. . . .	17.85	19.90	18.50	19.45	18.40	22.75	17.00	20.00	15.92	17.30
Dec. . . .	17.70	19.70	18.80	20.20	19.00	23.20	17.60	20.10	20.20	17.90

BRAN AT KANSAS CITY—Continued.

(Per ton)

	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
Jan. . . .	$17.90	$28.60	$37.30	$46.75						
Feb. . . .	18.30	32.90	36.50	39.00						
Mar. . . .	17.40	36.70	36.20	37.50						
Apr. . . .	19.20	38.70	34.70	38.00						
May . . .	19.00	33.80	34.00	35.50						
June . . .	17.50	29.00	33.25	34.00						
July . . .	17.20	35.60	27.72	37.50						
Aug. . . .	20.10	34.00	28.70	46.25						
Sep. . . .	21.50	28.70	28.63	36.50						
Oct. . . .	25.20	30.90	28.16	35.50						
Nov. . . .	27.80	39.00	27.81	37.00						
Dec. . . .	27.00	35.70	38.41	40.00						

Jan. . . .										
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Mar. . . .										
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May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

SHORTS AT KANSAS CITY.

(Per ton)

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Jan. . . .	$17.20	$17.50	$20.80	$21.40	$23.40	$21.90	$26.90	$20.30	$25.00	$24.60
Feb. . . .	17.30	18.40	21.10	22.10	24.00	22.00	27.00	20.10	24.60	23.50
Mar. . . .	17.60	18.75	22.70	23.60	22.80	21.60	26.70	19.00	24.20	22.70
Apr. . . .	18.50	18.20	23.10	25.60	21.70	22.50	27.70	19.00	25.00	25.60
May . . .	17.80	19.20	23.10	27.00	21.40	22.70	26.70	19.30	23.50	22.00
June . . .	16.70	20.10	21.20	24.60	19.20	21.10	23.70	19.40	22.70	22.90
July . . .	16.00	18.70	20.70	20.90	19.20	22.00	23.20	20.00	22.50	24.10
Aug. . . .	16.10	20.40	20.70	19.60	20.50	24.30	23.40	23.50	24.00	24.00
Sep. . . .	16.70	23.20	21.30	20.00	20.60	24.40	23.00	26.10	23.00	21.80
Oct. . . .	18.05	23.70	21.40	21.80	20.50	25.80	22.50	23.80	20.70	21.30
Nov. . . .	18.90	20.80	21.30	20.80	20.90	25.80	20.00	24.10	22.40	20.90
Dec. . . .	18.40	20.20	21.30	21.30	21.20	26.20	19.00	24.10	23.70	20.60

SHORTS AT KANSAS CITY—Continued.

(Per ton)

	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
Jan. . . .	$19.70	$31.60	$41.00	$54.00						
Feb. . . .	21.20	35.50	41.00	44.00						
Mar. . . .	20.80	39.30	39.20	41.50						
Apr. . . .	21.40	41.50	38.20	46.50						
May . . .	21.80	40.50	38.00	45.00						
June . . .	21.20	39.50	38.00	46.50						
July . . .	21.30	44.70	30.72	52.00						
Aug. . . .	24.60	45.00	29.97	54.00						
Sep. . . .	26.90	42.50	30.50	52.00						
Oct. . . .	27.70	41.50	29.65	48.50						
Nov. . . .	32.91	44.25	29.31	45.50						
Dec. . . .	31.30	44.50	41.16	45.50						

Jan. . . .										
Feb. . . .										
Mar. . . .										
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May . . .										
June . . .										
July . . .										
Aug. . . .										
Sep. . . .										
Oct. . . .										
Nov. . . .										
Dec. . . .										
Totals										

WAGES IN THE CITY AND ON THE FARM, WITH DUN'S INDEX NUMBER.

(On the basis of 1913 equals 1.00.)

Year.	*City wages.	Farm-hand wages by month without board.	Dun's index number.	Year.	*City wages.	Farm-hand wages by month without board.	Dun's index number.	Year.	*City wages.	Farm-hand wages by month without board.	Dun's index number.
1860	.41		.97	1880	.59		.91	1900	.73		.76
1861	.41		.85	1881	.62		.94	1901	.73		.77
1862	.43		.99	1882	.63	.63	1.02	1902	.77	.73	.85
1863	.49		1.44	1883	.65		.89	1903	.80		.83
1864	.55		2.33	1884	.64		.83	1904	.80		.81
1865	.61		1.62	1885	.64	.60	.76	1905	.82		.82
1866	.64	.89	1.73	1886	.64		.74	1906	.85		.88
1867	.67		1.58	1887	.64		.78	1907	.89		.95
1868	.68		1.53	1888	.65	.60	.79	1908	.89		.90
1869	.68	.85	1.38	1889	.67		.75	1909	.90		.99
1870	.68		1.24	1890	.69	.61	.77	1910	.93	.91	.99
1871	.68		1.27	1891	.69		.80	1911	.95	.95	.98
1872	.68		1.26	1892	.69	.61	.75	1912	.97	.98	1.02
1873	.68		1.19	1893	.69	.63	.76	1913	1.00	1.00	1.00
1874	.67		1.19	1894	.67	.58	.69	1914	.95	.99	1.00
1875	.65	.66	1.13	1895	.67	.58	.69	1915	1.00	.99	1.04
1876	.62		.97	1896	.69		.62	1916	1.20	1.08	1.21
1877	.59		.92	1897	.69		.60	1917	1.40	1.33	1.76
1878	.58		.80	1898	.69	.64	.65	1918	1.75	1.55	1.94
1879	.57	.54	.81	1899	.70	.67	.71	1919	1.85	1.85	1.95

*From 1860 to 1890, wages are based on the investigation made by the Department of Labor for the senate committee investigating prices and wages, and reported in Senate Document 1394. Wages from 1890 to 1907 are based on Bulletin 77 of the Bureau of Labor Statistics, and from 1907 to 1913 on unpublished data of the Bureau of Labor Statistics, prepared for the San Francisco Exposition. Figures since 1913 are estimated from reports of manufacturing establishments in New York state, reports of wages paid by the United States Steel Corporation, and reports of the Bureau of Labor Statistics as to wages existing in cotton goods, men's clothing, lumber, and furniture industries. It is believed that the figures since 1913 are roughly accurate, but that they may have to be revised to make them comparable with the preceding series. Farm-hand wages are derived from the December, 1919, Monthly Crop Reporter of the Bureau of Crop Estimates.

PIG IRON.

(No. 2 foundry, per ton, at Birmingham, first of month.)
Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$21.50	$10.00	$13.50	$14.50	$23.50	$13.50	$13.50	$14.00	$11.00	$10.00
Feb. . . .	21.50	10.00	14.00	14.50	23.50	13.50	13.00	14.00	11.00	10.00
Mar. . . .	18.50	9.50	14.00	14.50	23.50	12.50	12.00	13.00	11.00	10.25
Apr. . . .	18.50	10.00	14.00	14.50	23.50	12.25	11.00	12.00	11.00	10.50
May . . .	17.50	10.00	13.50	14.50	23.00	11.00	11.50	12.00	11.00	11.50
June . . .	15.50	9.50	12.50	14.50	22.50	11.00	11.00	11.50	10.50	11.50
July . . .	15.50	9.50	12.00	13.50	23.00	11.50	11.00	11.00	10.50	11.50
Aug. . . .	13.50	9.50	12.00	13.50	21.50	11.50	13.50	11.00	10.00	12.00
Sep. . . .	12.00	9.50	12.00	16.00	20.00	12.00	14.00	11.00	10.00	13.00
Oct. . . .	12.00	9.50	12.50	17.00	18.50	12.00	15.00	11.25	10.00	13.25
Nov. . . .	10.00	12.00	14.00	22.00	18.00	12.50	15.00	11.00	10.00	14.00
Dec. . . .	9.25	13.50	14.50	22.00	15.00	13.00	14.00	11.00	9.50	13.50

PIG IRON—Continued.

(No. 2 foundry, per ton, at Birmingham, first of month.)
Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$14.00	$10.50	$ 9.50	$15.00	$23.00	$33.00	$31.00			
Feb. . . .	13.50	10.50	9.50	15.00	24.00	33.00	31.00			
Mar. . . .	13.00	10.75	9.50	15.00	26.00	33.00	31.00			
Apr. . . .	13.00	10.50	9.25	15.00	33.00	33.00	26.75			
May . . .	12.00	10.50	9.50	15.00	37.50	33.00	26.75			
June . . .	11.00	10.50	9.50	15.00	40.00	33.00	25.75			
July . . .	10.50	10.25	9.75	14.00	47.00	33.00	24.75			
Aug. . . .	10.50	10.00	10.25	14.00	47.00	33.00	26.75			
Sep. . . .	11.00	10.00	11.00	14.00	47.00	33.00	27.75			
Oct. . . .	11.00	10.00	11.50	14.50	30.00	34.00	28.00			
Nov. . . .	11.00	10.00	13.00	17.00	33.00	34.00	28.00			
Dec. . . .	11.00	9.75	14.00	23.00	33.00	34.00	34.00			

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COPPER.

(Electrolytic, per pound, at New York, first of month.)
Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan.	$ .119	$ .122	$ .151	$ .187	$ .241	$ .138	$ .145	$ .137	$ .128	$ .143
Feb.	.126	.126	.152	.181	.252	.139	.139	.138	.126	.142
Mar.	.134	.124	.151	.185	.252	.129	.129	.136	.126	.146
Apr.	.150	.129	.153	.186	.253	.131	.129	135	.123	.156
May	.148	.131	.150	.186	.253	.129	.129	.129	.123	.159
June	.144	.128	.148	.188	.248	.127	.136	.129	.123	.168
July	.141	.124	.148	.187	.238	.127	.135	.127	.127	.175
Aug.	.129	.125	.153	.187	.213	.133	.133	.126	.127	.176
Sep.	.135	.125	.161	.187	.179	.138	.133	.128	.126	.178
Oct.	.130	.127	.164	.201	.149	.135	.132	.127	.124	.178
Nov.	.136	.137	.164	.223	.145	.139	.130	.128	.124	.176
Dec.	.119	.150	.176	.228	.138	.144	.134	.129	.133	.176

COPPER—Continued.

(Electrolytic, per pound, at New York, first of month.)
Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan.	$ .177	$ .149	$ .130	$ .229	$ .295	$ .235	$ .230			
Feb.	.162	.148	.148	.254	.330	.235	.188			
Mar.	.148	.144	.146	.271	.365	.235	.155			
Apr.	.153	.144	.156	.275	.340	.235	.154			
May	.146	.142	.186	.285	.310	.235	.153			
June	.156	.140	.188	.280	.325	.235	.165			
July	.146	.134	.200	.265	.318	.235	.190			
Aug.	.150	.130	.183	.263	.290	.260	.235			
Sep.	.164	.124	.178	.280	.253	.260	.228			
Oct.	.169	.118	.180	.285	.235	.260	.215			
Nov.	.165	.113	.179	.285	.235	.260	.218			
Dec.	.146	.128	.199	.345	.235	.260	.183			

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CRUDE PETROLEUM.

(Per barrel, at New York, first of month.)

Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Jan. . . .	$ 1.54	$ 1.85	$ 1.50	$ 1.58	$ 1.58	$ 1.78	$ 1.78	$ 1.43	$ 1.30	$ 1.35
Feb. . . .	1.50	1.85	1.39	1.58	1.58	1.78	1.78	1.40	1.30	1.50
Mar. . . .	1.50	1.77	1.39	1.58	1.63	1.78	1.78	1.40	1.30	1.50
Apr. . . .	1.50	1.68	1.36	1.58	1.78	1.78	1.78	1.40	1.30	1.50
May . . .	1.53	1.62	1.29	1.64	1.78	1.78	1.78	1.35	1.30	1.55
June . . .	1.50	1.62	1.27	1.64	1.78	1.78	1.68	1.35	1.30	1.55
July . . .	1.50	1.57	1.27	1.64	1.78	1.78	1.63	1.30	1.30	1.60
Aug. . . .	1.56	1.50	1.27	1.61	1.78	1.78	1.58	1.30	1.30	1.60
Sep. . . .	1.56	1.53	1.27	1.58	1.78	1.78	1.58	1.30	1.30	1.60
Oct. . . .	1.62	1.56	1.51	1.58	1.78	1.78	1.58	1.30	1.30	1.60
Nov. . . .	1.77	1.56	1.61	1.58	1.78	1.78	1.53	1.30	1.30	1.65
Dec. . . .	1.82	1.60	1.58	1.58	1.78	1.78	1.48	1.30	1.30	1.85

CRUDE PETROLEUM—Continued.

(Per barrel, at New York, first of month.)

Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
Jan. . . .	$ 2.00	$ 2.50	$ 1.45	$ 2.25	$ 2.85	$ 3.75	$ 4.00			
Feb. . . .	2.40	2.50	1.45	2.35	3.05	3.75	4.00			
Mar. . . .	2.50	2.50	1.50	2.40	3.05	4.00	4.00			
Apr. . . .	2.50	2.50	1.40	2.60	3.05	4.00	4.00			
May . . .	2.50	2.00	1.35	2.60	3.10	4.00	4.00			
June . . .	2.50	1.80	1.35	2.60	3.10	4.00	4.00			
July . . .	2.50	1.75	1.35	2.60	3.10	4.00	4.00			
Aug. . . .	2.50	1.65	1.35	2.50	3.10	4.00	4.00			
Sep. . . .	2.50	1.45	1.60	2.30	3.50	4.00	4.25			
Oct. . . .	2.50	1.45	1.70	2.40	3.50	4.00	4.25			
Nov. . . .	2.50	1.45	1.80	2.60	3.50	4.00	4.25			
Dec. . . .	2.50	1.45	2.00	2.60	3.50	4.00	4.50			

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LUMBER.

(Combined quotation on 1,000 feet each of yellow pine, Pennsylvania hemlock and eastern spruce.)

Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	$	$	$	$	$	$	$	$	$	$
Jan. . . .	58.00	61.00	58.50	74.00	78.00	68.00	68.00	71.00	66.00	71.00
Feb. . . .	58.00	61.00	59.50	74.00	74.00	66.00	69.50	69.00	67.50	71.00
Mar. . . .	58.00	61.00	59.50	74.00	74.00	66.00	69.50	69.00	68.50	71.00
Apr. . . .	58.00	60.00	59.50	80.00	70.00	65.00	69.00	70.00	70.00	71.00
May . . .	59.00	60.00	60.00	80.00	71.00	61.00	69.00	70.00	70.00	71.00
June . . .	59.00	60.00	62.25	80.00	71.00	61.00	69.00	70.00	70.00	70.00
July . . .	59.50	60.00	62.00	78.00	71.00	61.00	69.00	69.00	70.00	69.50
Aug. . . .	61.00	60.00	63.00	78.00	71.00	61.00	67.75	66.00	70.00	70.50
Sep. . . .	61.00	60.00	67.00	78.00	71.00	61.00	70.50	66.00	70.00	71.00
Oct. . . .	61.00	59.00	69.00	79.00	71.00	62.50	71.00	66.00	70.00	71.50
Nov. . . .	61.00	59.00	70.00	79.00	71.00	64.50	71.00	66.00	70.00	72.50
Dec. . . .	61.00	59.00	73.00	79.00	68.00	66.50	71.00	66.00	70.00	75.00

LUMBER—Continued.

(Combined quotation on 1,000 feet each of yellow pine, Pennsylvania hemlock and eastern spruce.)

Compiled from Bradstreet's Journal, by the Babson Statistical Organization.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	$	$	$	$	$	$	$	$	$	$
Jan. . . .	75.00	71.50	71.00	80.00	80.00	98.50	117.50			
Feb. . . .	77.00	71.50	71.00	81.00	82.00	100.50	119.00			
Mar. . . .	79.50	71.50	71.00	83.00	83.00	100.50	119.00			
Apr. . . .	84.00	71.50	71.00	84.00	83.00	107.50	112.00			
May . . .	80.00	71.50	71.50	84.00	87.00	120.50	112.00			
June . . .	79.50	71.00	70.50	84.00	86.00	121.50	112.00			
July . . .	76.50	71.00	70.00	78.00	96.00	124.00	112.00			
Aug. . . .	73.50	71.00	70.00	73.75	96.00	124.00	128.00			
Sep. . . .	73.50	71.00	70.50	73.75	96.50	114.00	140.00			
Oct. . . .	73.50	71.00	70.50	73.75	97.50	114.00	139.00			
Nov. . . .	71.50	71.00	72.50	73.75	98.50	114.00	144.00			
Dec. . . .	71.50	71.00	79.00	79.00	98.50	117.50	162.00			

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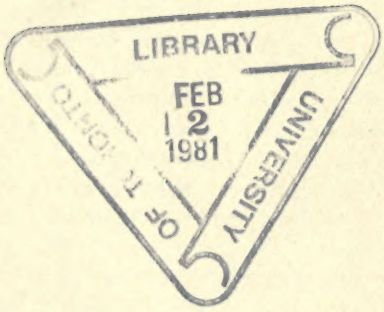
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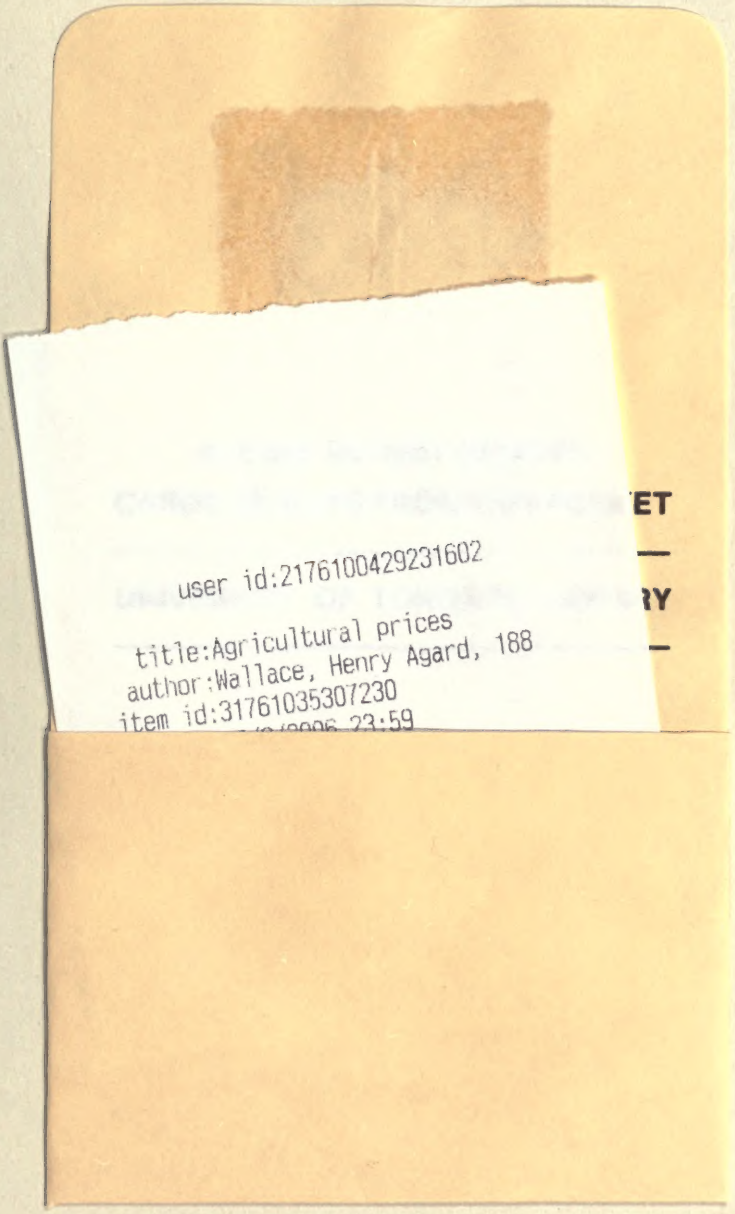
Index to Tables in Appendix

Bacon prices, wholesale 204
Bacon prices, retail 200
Bran prices in Illinois 197
Bran prices in Iowa 195
Bran prices at Kansas City 208
Bran prices at Minneapolis 206
Butter prices on the farm 198
Butter prices at Elgin and Chicago 161
Cattle grades, percentage of each slaughtered at central markets....184
Cattle prices, average native beef, 900 to 1,900 pounds, at Chicago...147
Cattle prices, average native beef, 1,200 to 1,500 pounds, at Chicago..148
Cattle prices, average fat cows and heifers, at Chicago 149
Cattle prices, average canners and cutters, at Chicago 150
Cattle prices, average native calves, at Chicago 151
Cattle prices, average grass-fed westerns, at Chicago 152
Cattle prices, average feeders and stockers, at Chicago 153
Cattle prices in Illinois 197
Cattle prices in Iowa 195
Cattle receipts, monthly, at six markets 172
Cattle receipts, monthly, at Chicago 173
Cattle shipments of stockers and feeders from Omaha 185-186
Cattle shipments of stockers and feeders from Kansas City 189
Cattle weights at Chicago 182
Chicago ten-year average daily prices 126-133
Copper prices 212
Corn exports 193
Corn-hog ratios by decades 120
Corn prices in Illinois 196
Corn prices in Iowa 194
Corn prices, monthly, at Chicago 118-119
Corn prices in Argentina 190
Corn receipts, monthly, at Chicago 176
Cottonseed meal prices at Memphis 205
Crude petroleum prices 213
Daily prices, ten-year averages, at Chicago 126-133
Dun's index number, yearly 134-135
Dun's index number, by months since 1903 135-139
Egg prices on the farm 198
Exports of corn 193

Exports of pork products 191
Exports of wheat 192
Greenback currency values 125
Ham prices, wholesale 204
Ham prices, retail 200
Hog prices, in Illinois 196
Hog prices in Iowa 194
Hog prices, heavy, at Chicago 116-117
Hog prices, average, at Chicago 140
Hog prices, average, at Sioux City 140
Hog prices, light, at Chicago 141
Hog prices, pigs, at Chicago 142
Hog prices, top, at Chicago 143
Hog prices, top at St. Louis 144
Hog prices, top, at Omaha 145
Hog prices, top, at Kansas City 146
Hog receipts, monthly, at eleven markets 164
Hog receipts, monthly, at six markets 165
Hog receipts, monthly, at Chicago 166
Hog receipts, monthly, at Kansas City 169
Hog receipts, monthly, at Omaha 167
Hog receipts, monthly, at St. Louis 168
Hog receipts, monthly, at Sioux City 170
Hog receipts, monthly, at St. Joseph 171
Hog weights at Chicago 178
Hog weights at Kansas City, St. Joseph and Sioux City 180-181
Hog weights at Omaha 179
Hog weights at St. Louis 179
Horse prices on farms 163
Horse prices, draft, at Omaha and Chicago 163
Lard prices at Chicago 160
Live stock movements, yearly, Bureau of Markets 190
Lumber prices 214
Middlings at Kansas City 209
Middlings at Minneapolis 207
Milk prices in Elgin-Chicago district 162
Mill-feed price averages 205
Oats prices in Illinois 196
Oats prices in Iowa 194
Oats prices, monthly, at Chicago 121-122
Oats receipts, monthly, at Chicago 177
Packers' prices of ham and bacon 204
Petroleum, crude, prices 213
Pig-iron prices 211
Potato prices on the farm 197
Pork exports 191
Prices, daily ten-year averages, at Chicago 126-133

Retail prices of bacon 200
Retail prices of butter 202
Retail prices of corn meal 201
Retail prices of eggs 202
Retail prices of flour 201
Retail prices of ham 200
Retail prices of lard 201
Retail prices of milk 202
Retail prices of pork chops 200
Retail prices of potatoes 203
Retail prices of rib roasts 199
Retail prices of round steak 199
Retail prices of sirloin steak 199
Sheep prices, average of native lambs, at Chicago 155
Sheep prices, average of native sheep, at Chicago 156
Sheep prices, average of western lambs, at Chicago 157
Sheep prices, average of western sheep, at Chicago 158
Sheep prices, average of yearlings, at Chicago 154
Sheep receipts, monthly, at Chicago 175
Sheep receipts, monthly, at six markets 174
Sheep, shipments of stockers and feeders from Omaha 187-188
Sheep weights at Chicago 183
Short-rib sides, prices at Chicago 159
Shorts, prices at Kansas City 209
Wages on city and farm 210
Wheat exports 192
Wheat prices at Chicago 123-124
Wheat prices in Argentina 190
Wool prices in Illinois 197
Wool prices in Iowa 195


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